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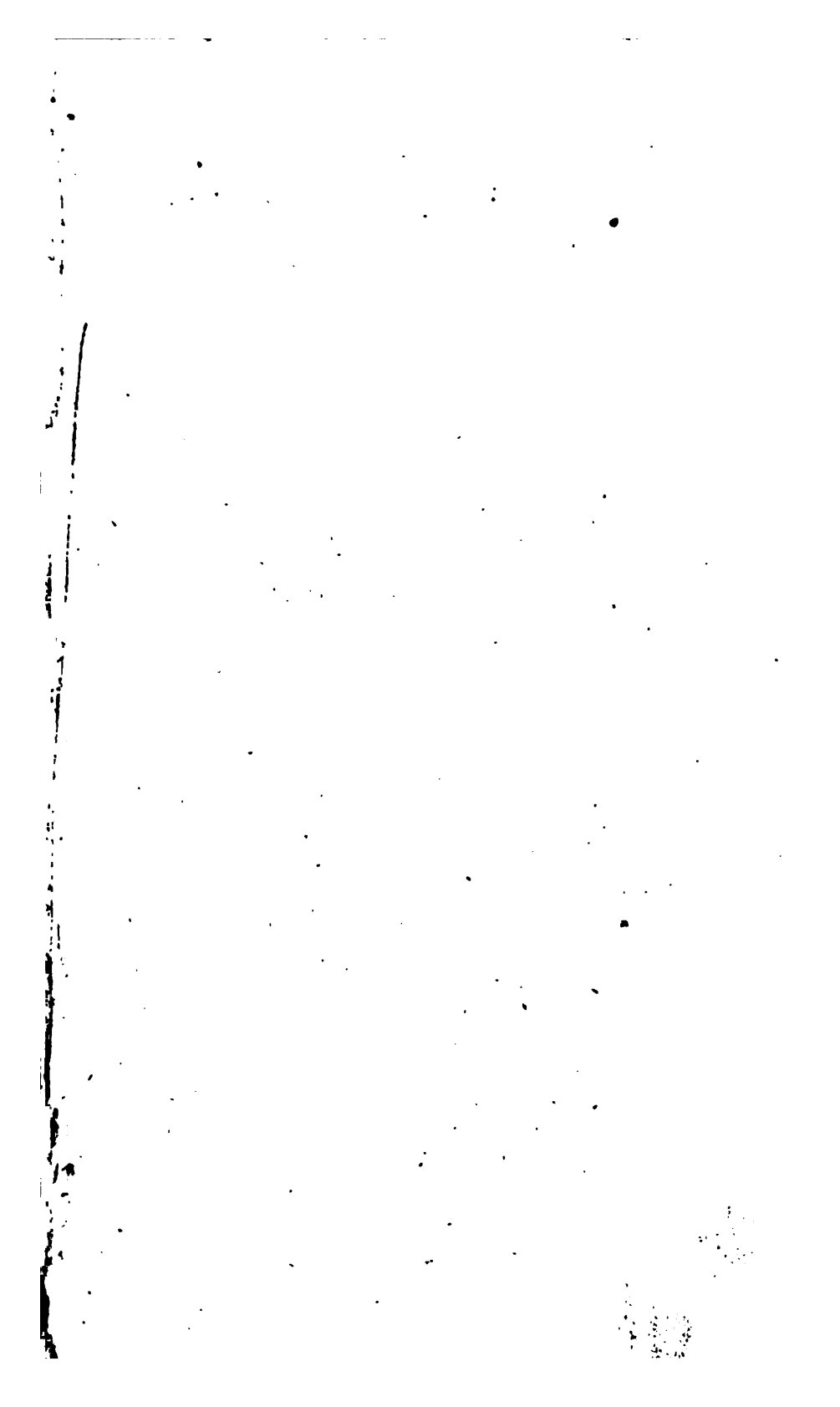
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THE  
MARYLAND  
**MEDICAL RECORDER,**

DEVOTED TO MEDICAL SCIENCE IN GENERAL.

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CONDUCTED BY

**HORATIO G. JAMESON, M. D.**

Professor of Surgery in Washington Medical College, Baltimore.

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Quaramus optima, nec proinus se offerentibus gaudeamus; adhibeatur  
judicium inventis, dispositio probatis. *Quintilian.*

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VOL. 1.—NO. 1. SEPTEMBER, 1829.

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**Baltimore:**

PRINTED BY WILLIAM WOODY.

1829.

## ADVERTISEMENT.

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It seems proper that we offer to our readers, an exposition of our intentions, in conducting our Journal—in doing this, we would state, that it shall be our primary object to collect and record original views of medical subjects generally; extending our inquiries, and our labors, alike to sentiment and to practical knowledge.

We wish to give free scope to theoretical inquiry, but without accountability for its validity—while we shall feel indulgent to ingenious speculation, we must claim the right to restrain frivolities, and to give our sanction to that which claims especial commendation. We stand pledged to no party—this will enable us to be liberal to all, without being unjust to any.

We believe there is not one of the departments of knowledge, which stands related to medicine, that is not susceptible of improvement. We shall, therefore, be pleased at the reception of any attempts to shed light upon the subjects of chemistry, pharmacy, mineralogy, meteorology, botany, anatomy, physiology, pathology, &c.

In our department of reviews, we shall be governed by our motto—we shall endeavour to *seek that which is best, not rejoice too hastily at that which offers; apply judgment to new discoveries, and give attention to that which is approved.* We purpose extending our investigations to whatever we deem valuable, whether it be knowledge of the day, or found neglected or unknown among the works of other ages.

Our selecta shall be made with especial regard to that which we deem most useful. In this department, as in all others, it shall be our aim to strive how good, rather than how large we make our collection.

We hope our readers will excuse the smallness of the present number of our journal. It is our intention to enlarge, as our subscription shall justify, even in the present volume; mean-

time, we have thought it sufficient, in offering our labours in the cause of medical science, to present so much of the intended work as shall serve to exhibit our method.

We do not approve of that tame style of journalizing which consists of mere compilation. It shall be our task, in addition to paying the most respectful attention, to the communications of our correspondents, to review all accessible journals, &c. without respect to authority, or the sanction of *names*.

We hold in contempt hypercriticism wherever found, but we deem it one of the privileges, nay, the first and most important duty of an editor to exercise his judgment with candor, wherever it may be required; and upon this point, mainly, must turn the utility or inutility of the work. In the present abundance and luxuriousness of the harvest, it must be the business of the gatherer of the grain, to winnow the wheat from the chaff.—How far we shall be enabled to fulfil so high a purpose must be left to time, and to opportunity.

The earliest practicable opportunities will be taken to obtain European intelligence, not forgetting to gather all within reach at *home*.

## PREFACE.

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IN entering upon the duties of editorship, we are not insensible of the arduousness of our labors, nor unthoughtful of the high responsibilities which we assume.

So various are the branches of knowledge which fall within the sphere of medical science, that no one conversant with the subject, can be ignorant of the momentous importance, nor the vastness of the undertaking.

We, however, believe that as men become enlightened, they become more liberal—as they ascend in the acquisition of true knowledge, so do they become more tolerant, as regards minor defects.

To such we, therefore look for the necessary forbearance, and for the necessary sustenance—the fastidious we would not expect to please—the illiberal criticisms of the prejudiced, we would not expect to escape—To all we offer the following prospectus.

It is known to all that, about thirty years since, the legislature of Maryland, willing to acknowledge the utility and respectability of the medical profession, passed an act of incorporation, creating a faculty with competent privileges and powers, to stay the hand of the quack, and give the rein to those to whom it rightfully appertains.

This, as was intended, has elevated the professional standard in our state; and in the body so incorporated, there are now about six hundred members, among whom, it cannot be denied, there are many men who stand pre-eminent, whether we allude to their experimental or scientific knowledge.

We would ask, does this body owe any thing in return to the people? Do we believe that medical science has been advancing within the last thirty years? Do we believe there are peculiarities attending diseases, growing out of localities? Do we believe

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that any thing new, in medicine, transpires in Maryland? Do we believe that there are men in our ranks whose opportunity and acquirements, put it in their power to record useful information, for the present, and for the future practitioner? Does it comport with the liberality and countenance shown by the state, for a body of six hundred educated men, to pass through life, no one leaving any memorial of his existence, other than *ille fuit*? If the foregoing queries are answered in the affirmative, it is time the profession were roused from their lethargy.

Let it be admitted that the profession owe it to the people, and to the medical world, to assist in the compilation of materials, now collecting throughout the world, for the erection of a more splendid and substantial Esculapean temple, and the question arises, who shall, in our section, take on the oracular office?

We answer that, where all have equal rights, none may claim superiority—in the present case, none is implied. Where all are equally concerned, it frequently happens, that each one has some reluctance to rise first upon the tapis—none rising, things must remain in statu quo—If we have accidentally risen first; who shall gainsay us?

In a word, of ourselves we can do nothing; with the hearty co-operation of the profession, we fear not the result. We tender that share of industry, and patient research, together with that portion of judgment, which the ruler of our destinies shall apportion us. Try us in the balance—if we are found wanting, let us be condemned—if our levity be not exposed, none, but the envious, can refrain from wishing us success.

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THE  
**MEDICAL RECORDER.**

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ORIGINAL ESSAYS.

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*A dissertation on Typhus Fever, by HORATIO G. JAMESON,  
M. D. Professor of Surgery, in Washington Medical Col-  
lege, of Baltimore.*

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"But how great soever others' endeavours have been, I always thought I lived in vain, unless I, being of the same employment, contribute something how small soever to the treasury of physic."—*Sydenham.*

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Nimium confidens esse in scientia est periculosum.

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**ONE** of the most obvious truths which presents itself in our reflections on typhus fever, is this; so discordant are the pathological views of writers on this disease, that it is no longer an easy matter to understand precisely what is meant by the epithet. This confusion of language and of doctrine suggests the necessity of taking some work which has stood the test of time, and if possible, one which may be considered as containing the rudiments of the various systems which have been brought forward in more modern times, as our guide, and move round it as our centre.

Happily such a work is extant—a work which we have only to divest of its crude theories of antiquity, and compare the practical observations of the author with the better part of more modern works, to see, that, but little advancement has been made in the pathology of typhus fever, whatever improvement we may claim in our therapia.

We allude here to the writings of doctor Sydenham, and shall now proceed to give an exposition of his observations on

epidemics—with especial reference to epidemic constitutions, we wish to bring conspicuously to view his reflections and facts, contained in his introductory remarks.

This author tells us, "that the seasons of the year which chiefly favour any kind of diseases, are necessary to be observed"—"I have indeed wondered that this disposition of some diseases, which is so obvious, has yet been observed by few." This important observation of doctor Sydenham which, it appears, was but little attended to by his predecessors or cotemporaries, has been duly appreciated by a large portion of the profession of the present day, and for this we are principally indebted to doctor Rush. European writers may strive to conceal this truth, but it is written in characters too legible to be misread or concealed.

Speaking of certain epidemics, doctor Sydenham says: "This I am sure of by many observations, that the above mentioned diseases, especially continual fevers, do very much differ for that method which is successful one year may, perhaps be destructive another." What an admonition is here presented to nosologists. The neglect of this admonition has involved the doctrines of epidemics in much obscurity—nor can we exempt most of the writers, who are professed anti-nosologists, from the charge of having left the plain laws of epidemics to obscure their experience by favourite theories:—but more of this as we proceed.

Our author speaking of his pains to observe the particular changes of the weather upon epidemics, says: "I perceive that years that agree as to the manifest temperature of the air are infested with various diseases"—"and thus it happens that there are many constitutions of years that arise neither from heat, nor cold, nor moisture, nor drought, but proceed from a secret and inexplicable alteration in the bowels of the earth, whereby the air is contaminated with effluvia as dispose to this or that disease as long as the same constitution prevails."—"Every one of these constitutions is accompanied with a fever proper and peculiar to itself." We need scarcely stop here to tell the reader, that these supposed effluvia from the bowels of the earth are now almost universally recognized under the names of malaria or miasm.

It is a singular fact that, we find doctor Sydenham expressing his hopes and expectations, that diseases like plants may be reduced to systematic arrangement, and yet he has shown, in strong language, the failures of his predecessors and cotemporaries in making theories, and their inutility. If diseases vary

with seasons, and these variations are not owing to sensible changes of the weather as relates to "heat, cold, moisture nor drought," how vain to expect much advantage from nosology.

In support of the method of observation pursued by doctor Sydenham as relates to epidemical constitutions; and in opposition to nosology, I quote the following from the fifth and sixth pages of his work. "There are other years which though they be epidemical, yet are they so irregular that they cannot be comprehended under any one form, and are indeed ill conditioned." The most ample experience fully confirms this statement of our author. "Diseases may vary often under one and the same constitution which is of so great consequence, that the curative indications are to be omitted or used according as the disease is disposed." This strong objection to nosology we believe to be well founded. The writings of doctor Sydenham fully establish this important truth, and we have an interesting illustration in doctor Rush's account of the yellow fever of 1793, and it is quite in accordance with our own experience.

This illustrious author has remarked that, "when autumnal intermittents appear early as in July, they do not always put on their own peculiar symptoms, and that we must carefully distinguish intermittent fevers from continual fevers which they resemble." This admonition is truly important—we shall endeavour to show, as we proceed, that typhus action is so essentially different from the simple intermittent, that to mistake the one for the other might be attended with dangerous consequences.

We are told that "when many diseases infest the same year one is more predominant, and all the rest are as it were under it, and don't rage so much at that time." Subsequent observation has proved this to be true. Let it suffice at this time to say, that the writings of Mr. John Hunter, and especially the writings of doctor Rush confirm it, to say nothing of our daily experience. This fact must have a strong bearing on our practice, since all the diseases cotemporaneous, but of inferior force, will principally partake of the predominant disease. Our author has therefore correctly said, "diseases which have been called putrid, malignant, spotted, and the like, ought rather to be named after the constitution;" that is to say, all such diseases will partake of one grade of inflammatory action or of the opposite state, and, the predominant characteristics of the satellites will be influenced by the ruling planet in this system. The peculiar constitution will give rise to a specific remote cause, and that will more or less govern all diseases of the epidemic kind.

Again, "seeing that the specific differences of popular dis-

eases, viz. fevers, arise from the secret constitutions of years, those labour in vain who deduce the reasons of divers fevers from a morbid cause reserved within the body." These remarks are no less true at the present time, than they were in the days of our author. They apply equally well to the cerebral theories of Clutterbuck, and to the tubular viscera of Broussais.

Doctor Sydenham thus expresses his views respecting constitutions:—"but how may we give an account of the distinct species of epidemics that do not only, (at least as it appears to us,) invade by chance, but for one year, or one certain series of years, are of one genus; in another year, are distinguished in species, one from another? Why in this case no method seemed more fit to me than that which described them, in the order they succeeded one another, for a sufficient number of years, which, that I may do according to my own method, I will first fully deliver to the learned world the history and cures of these epidemics, (as well as I could possibly collect from the most accurate observations,) that did rage from the year 1661 to the year 1684."

Does not the fact of system after system having fallen into ruin since the time of doctor Sydenham, serve to support the accuracy of his views just cited, and still more and more clearly show their importance, since it now seems manifest that the only way in which we can improve our pathology and therapeutics, belonging to epidemics, is to "describe them in the order they succeed one another." Each year and each constitution have their modifying influences; how then shall we by any classical arrangement arrive at the true nature of each epidemic as it passes under our notice? We must from year to year, or from season to season, find out the predominating character of continual fevers, to enable us to proceed correctly in our curative measures. It was the hope of doctor Sydenham that in process of time, but to which the life time of one man was inadequate, we should be enabled to ascertain some regular order of succession in the occurrence of epidemics. Subsequent observation, says doctor Rush, shews that diseases, though varying their type, as observed by doctor Sydenham, do not succeed each other in any regular order of succession.

It may not be amiss to notice the constitutions pointed out by doctor Sydenham. He describes six different constitutions, each one presenting some peculiarity in the several diseases of which he treats. The first constitution commences with 1661, and ends in 1665. We shall see in the sequel, that the continual fevers of this constitution partook principally of the characteris-

tic phenomena of typhus fever. The second constitution embraced a space of one year from 1665, to 1666—during this period the fever was of a typhoid cast, but more inflammatory than fevers of the preceding constitution—in this constitution, it will be recollected, raged the great plague of London. A third constitution existed from the termination of 1666, to 1669—the continual fever of this constitution was distinguishable in part, by the unusual pernicious effects attending the use of stimulants. The fourth constitution included a part of the year 1669, and extended to the year 1672—during this term dysentery was the most prevalent form of disease, but it is evident that the diseased action of this constitution was of a low grade, from the fact, that opium was found of so much value as to call forth, from doctor Sydenham, the highest encomium. The fifth constitution extended through the years 1673, '4 and '5. In this constitution, fevers were however attended with more decided inflammatory symptoms than those of any preceding constitution, and, indeed, there is evidence of many cases of malignant typhus occurring during this term. A sixth constitution is said to have existed. The continual fevers of this constitution were remarkable for this, although the fever exhibited a predominance of symptoms slightly inflammatory, yet it yielded readily to the use of the bark, after moderate evacuations. The febricular seems to have been the most common form of fever.

We think the foregoing facts are sufficient to show, that typhus fever can never be fixed to any definite arrangement. Notwithstanding the high merit of the work of doctor Armstrong, it is but little less exceptionable than professed nosological arrangements; for what indeed can any arrangement be that attempts to characterize typhus fever by fixed varieties, but nosology. We see little difference between describing this disease under the division of typhus mitior and typhus gravior, and that of simple, inflammatory, and congestive typhus. Still we see a necessity for some classification, and that of doctor Armstrong is the best we have seen. But we object to it, in some degree, because it loses sight of the most important characteristic by which we should distinguish this disease—that is its being an epidemic varying its phenomena with the varying peculiarities of seasons. So that notwithstanding its having a character so far fixed as to constitute it an idiopathic fever, it is liable to mutations and modifications from collateral circumstances. With these introductory remarks upon the subject of typhus fever, we shall now attempt an explanation of what we mean by the term typhus fever.

*Definition of Typhus Fever.*

The term typhus is equally remarkable for its antiquity, and for its uncertainty of meaning in the present day; and, indeed, this epithet seems to have been attended with some degree of uncertainty of meaning from its introduction into medicine. Hippocrates, who was probably the first to use the word typhus, or rather τυφος, meant to designate by it a state of coma, or a tendency to stupor, as the prominent symptom of fever to which it was applied. And yet this author in describing five different varieties of typhus fever, does not make stupor an indispensable symptom. Nor does he, by any means, use the word in its modern acceptation. Indeed, it is evident that one of his varieties was decidedly an inflammatory disease. He says of this, that "there are intense pains in the joints, sometimes all over the body, the blood is hot and stagnates in the limbs." No one can overlook the similarity in the phenomena attending these several typhus fevers of Hippocrates, from the continual fevers of doctor Sydenham, doctor Pringle's febris carcerum, and the typhus of doctor Armstrong, &c.

The term typhus which was chosen originally, with reference to the peculiar disturbance of the mental powers has, in process of time, lost its original import, and now seems to go almost universally under the meaning of a reduced action, or as a disease of a low grade, and most generally as a diseased action, the opposite of inflammation. And hence in the scale of Brown made of the sthenic and asthenic, it is classed with the latter, and so in the entonic and atonic of doctor Good, it is also placed in the latter. We have only to take up the works of doctor Sydenham, doctor Armstrong, or any other, to see with how great difficulties this subject is beset. So much difficulty is there in distinguishing cases of fever which are, ab initio asthenic, that it has been doubted whether any such disease does really exist as a fever truly founded in a state of exhaustion, and not either a consequence of, or subsequent to, a state of excitement.

We hope to prove that there is an idiopathic fever, the distinguishing characteristic of which is a reduced action, and therefore a typhus fever in the present most usual acceptation of the term. It is only necessary to observe the many different names which have been applied to continual fevers to perceive, that the various epithets which have been adopted, from some peculiarity attending epidemics mean, indeed, one and the same disease, existing under different grades and modifications. We readily perceive that the terms carcerum, castrensis, nervosa,



maligna, Egyptiorum, nautica, putrida, comatosa, and others, which have been applied to low grades of fever, have been chosen from the circumstance of those different epidemics having occurred in particular places, as in jails, camps, &c. or from their force having been directed particularly to certain parts of the body, and hence the adoption of the terms putrida, nervosa, maligna. It must be admitted that these names are not so well suited to the disease as to carry with them any decisive information, but viewing them in the aggregate, we are led to the conclusion that typhus fever is an epidemic, carrying with it peculiar symptoms, and requiring different treatment in each epidemic; sometimes, at different periods of the same epidemic, and at other times presenting a sameness, in these respects, throughout a constitution, consisting of a short term of years. This is remarkably exemplified in the works of doctor Sydenham, and every practitioner of extensive experience, in this country, must be aware of the truth of this remark.

An attentive reading of the works of doctor Sydenham is alone sufficient to convince us, that, although typhus fever has some peculiar characteristics, almost every year, still each one of these constitutions or years noticed by our author, presented cases which might have been properly designated by the names usually found in the books treating of low fevers. We evidently have in the works of doctor Sydenham cases reported which might be termed mild, malignant, nervous, simple, inflammatory, congestive, &c. The various other epithets chosen from some accidental circumstance as to location, as jails, camps, &c. are altogether useless, as relates to the nature of the disease, except so far as they have become significant of typhus by a sort of association—fevers of this grade, most usually, prevailing in confined or filthy situations.

We need no other information respecting typhus fever than a careful perusal of doctor Sydenham on epidemics, to show us on how fallacious a foundation doctor Cullen has rested his division of typhus, into the mitior and gravior. But if we review our own experience, we shall see cases of typhus mitior in the morning, by neglect or maltreatment become typhus gravior in the evening. The same observations will apply to the arrangement of doctor Armstrong. A case of this fever may be *simple typhus* in the morning, and inflammatory typhus in the evening. So may simple typhus become congestive, and afterwards inflammatory on the same day, or on the succeeding day. This may all arise without the interference of art, but more certainly by maltreatment.

If a physician, under the influence of the theory of doctor Cullen, should apply stimulants in the state of inflammation, or congestion, instead of some suitable depletion; a case, which by the latter prescription, would have been disarmed of its terrors, will become typhus gravior, with all its unconquerable horrors. This was well known, as we have already seen, to doctor Sydenham. Indeed, nothing could be more fallacious than an attempt to delineate the multifiform phenomena attending epidemic diseases, as we find them located in camps, jails, or in particular locations. Under none of these circumstances, can any given number of cases be referred to the classes of mitior or gravior. The same remark applies here, also, to the theory of doctor Armstrong, since, in all typhus epidemics, we shall find cases of simple, of inflammatory, and of the congestive forms. But we think the experience of all accurate observers will agree with our own observation which has led us to conclude, that, in all typhus epidemics, there will be a predominating cast of the fever; so that we may, by careful observation, at the commencement of an epidemic, ascertain its more peculiar nature; and whether we view it, in the aggregate, as consisting of simple, inflammatory, or congestive typhus, or adopt the arrangement which we mean to suggest of *febricular, simple, inflammatory* typhus, &c. still we can speak, correctly, only by viewing these different states as modifications of the same disease, and, especially, bear in mind that the most important circumstance is to know, that, in every epidemic, the disease is peculiarly characterized by a remarkable preponderance of some one of these states. Hence it follows, that typhus fever of different seasons, will require very different treatment; and, whether the disease be left to nature, or put under the care of the most skillful physicians, the amount of mortality will be very different in different seasons, years, &c.

#### *Plan of Arrangement.*

Attention to what we have already said, will show that the writer does not consider it within the range of possibility, to reduce the phenomena of typhus fever to nosological arrangement. But however sensible we may be of this truth, still some attention to nosological arrangement is highly conducive to the study of our subject, and therefore we must retain our nosology as the dictionary of pathological science.

We have seen in our introductory remarks, that every writer upon febrile diseases which appear as epidemics, has felt himself at liberty to apply some new name to the epidemic diseases

which came under their notice. All these names have grown out of some modifying circumstances, attending their observations on the diseases which they treated. Some of these epithets are harmless, others require to be received with some qualification, to disarm them of the evil tendencies with which they are fraught—yet so complex is this subject, that a term which may be thus exceptionable, shall, under proper qualification, be highly valuable. If it be asserted, that by the word typhus, we mean a state of direct debility, and this we believe is the common understanding, what can be more strange than to talk of an “inflammatory typhus;” yet, nothing is more certain, nor can any thing be more important than to know, that local inflammation is a frequent concomitant of typhus fever. The truth seems to be, that typhus fever as an epidemic, is always the product of malaria. It has been so represented by Hippocrates, Sydenham, Pringle, Huxham, Armstrong, and others, to which we may add the experience of many of our own practitioners and that of the writer.

If we can give credit to the writings of doctor Sydenham, we must wholly discard all notion of typhus fever being a contagious disease. This author, so remarkable for talent, for accurate observation; and, notwithstanding his general belief in contagion, no where intimates a suspicion of any thing like contagion.

Whatever may be said for or against the identity of the cause of typhus fever, and common bilious remitting fever, there seems to be no doubt of the fact, that epidemics which pass as typhus in the present day, and, which, have been described by practical writers of all ages of the world, have been described as being more or less connected with bilious remittent fever. A disease which in the main is typhus, may present the different grades of febrile action, known by the terms synocha, synochus, synochoid, at some one period of their course. We shall endeavour to prove that, these peculiarities are only accidentally present, and, therefore, they are not intrinsically symptoms of typhus.

The peculiar symptoms of typhus, or those which constitute the predominating characteristics in epidemics, usually reputed typhus, may be classed advantageously, under the following heads:

- |                         |                       |
|-------------------------|-----------------------|
| 1. Febricular Typhus.   | 4. Congestive Typhus. |
| 2. Simple Typhus.       | 5. Malignant Typhus.  |
| 3. Inflammatory Typhus. | 6. Secondary Typhus.  |

A moment's reflection must convince us how difficult it must

be to define the essential nature of typhus fever. If we admit the idea that this is really a disease of low action, or of direct debility, how shall we admit the opinion of a co-existing inflammatory action? However sensible we may be of the difficulty of the task, we shall endeavour to prove that these seeming discrepancies are reconcilable.

We maintain that there are idiopathic fevers, the product of specific remote causes; and, that typhus fever has this nature. We also maintain that febrile diseases are modelled by their remote causes, or, at least, they assume their prominent phenomena from those causes. The remote cause has been, almost universally considered as exerting a prostrating or exhausting influence. But we know, that all poisons of this kind are relative in their effects upon the living body; and hence it is that the fomes of typhus fever, most usually, either prostrates the system from the onset, or at least exerts an influence tending that way. The effect being, then, in some degree relative, the accidental coincidence of some exciting cause of inflammatory disease may associate inflammatory action of some important viscus. By some interruption in the general excitement of the system, some viscus loses its equipoise, and takes on reaction; and thus we have symptoms excited which are not intrinsically typhus in their nature. We have then, to more or less extent, reduced action constituting idiopathic typhus fever with local inflammation—or a state of congestion as a local associate to general fever of low grade.

We believe that the miasm which gives rise to typhus fever, does under all circumstances, so far as we can understand its abstract nature, tend to direct exhaustion of the vital energies. We shall enter more fully into our views on this point, as we proceed; we may here say, in anticipation of our more general views, that the remote cause of typhus fever assails more directly the sensory, than the remote cause of other fevers; and notwithstanding the certainty of inflammation and congestion of other viscera being occasionally associated, it is the brain that we find more especially disturbed in typhus grades of disease. And we believe it to be the only viscus primarily affected. We believe the brain to be necessarily connected with typhus fever, notwithstanding its being an idiopathic disease which involves the whole system in its influence. Inflammations and congestions being common to most fevers; and, arising from various remote and exciting causes, cannot well be placed as symptoms essential to typhus fever. Typhus fever proceeds from a specific cause; and may be constituted and run its course without local derangement; this

has been acknowledged by doctor Armstrong, and many others. The primary disturbance of the brain we believe to be a peculiar irritation, and its secondary impairment is well known to be inflammation.

We must bear in mind, however, that such is the liability to disproportion of excitement when the whole system is labouring under some morbid excitement, that we are in most cases to expect congestion or inflammation in some important viscus, or viscera. It sometimes happens, however, that so insidious is the remote cause in its inroads upon the system, that the patient shall be but slightly sensible of its presence, till some viscus has taken on more or less special and morbid action. We cannot, therefore, be too particular in watching the early symptoms of this disease; a circumstance pointed out with much force by doctor Armstrong. It is in this way only that we may expect to meet rising congestion or inflammation. We hope to prove, that typhus fever is a disease of low action, but being mostly associated with some local increased action or congestion, we may expect to cure it by carefully measured depletion, aided, at the proper time, with stimulants adapted with equal care to the varying states of excitement.

Before we proceed in the further discussion and division of our subject, we wish to repeat, that, we consider febricular typhus, simple typhus, inflammatory typhus, &c. in good degree convertible terms; that is, the different states of fever which we designate by these terms readily run into each other. They are occasionally too fleeting for our cognizance, but mostly sufficiently fixed, to leave no room to doubt of their presence, and sometimes enthroned too securely for our feeble powers, and irresistibly hurry our patients to their graves.

#### *Febricular Typhus.*

We have been led to the adoption of this term from the circumstance of doctor Rush having used it to designate a disease, which, he describes as having prevailed in the southern states of this country. The writer has seen cases of this form of typhus in every epidemic, which he has seen, of the typhus character; as these cases bear a greater proportion, so of course will the epidemic be more mild.

Doctor Sydenham describes cases of this form in his sixth constitution. He remarks that the patients were hot and cold by turns, pulse like that of those in health, often pains in the head and limbs, mostly cough and other pleuritic symptoms, attended with sily blood. Heating treatment disposed to

phrensy, and to the use of odd words and muttering. The tongue was sometimes moist, sometimes dry and dusky.

Doctor Pringle speaks of jail or camp fever (we suppose typhus) in which the symptoms were felt for weeks, without any regular fever. These were cases of febricular typhus. Some of these appearing a little more severe yielded readily to a "vomit,"—a "change of air, or a sweat." The following account of this form of fever, by doctor Pringle, is too interesting to pass over; "there were some slight degrees of it (continual fever) hardly to be described, and which can only be discovered in full hospitals by observing the men to languish, though the nature of the illness for which they came in, should seem to admit of a speedy cure. In such cases they have a whitish tongue, they complain of slight head aches, of want of appetite, and other inconsiderable feverish symptoms."

Doctor Armstrong tells us that, "when typhus fever prevails epidemically, many cases of typhus usually occur, which do well entirely without medicine, or by very mild means." In these cases we recognise febricular typhus. This form of fever we suppose can never prove dangerous, but the disease may change its form, and hence the necessity of extreme caution. By neglect, or particularly by maltreatment we may convert this very mild form of fever into the most dangerous form of typhus. Let us never sit down as nosologists contented with the name of the disease for one single day, but rather let us bear in mind that the fomes of typhus fever being within the body and exerting but a slight influence upon the healthy economy, is constantly liable to be roused into violent action by a great variety of exciting causes—such as exposure to the vicissitudes of the weather, imprudence in food or drink, over exertion of the bodily strength, great mental anxiety, and especially by interference with active medicines, or too copious depletion of any kind; also by continuing to reside in the infected atmosphere when the disease is endemic, as is often the case.

The excellent work of doctor Armstrong is not exempt from the fault which we have just alleged against nosologists. He leads you to the bedside, and there gives you a true picture of simple typhus, inflammatory typhus, and congestive typhus, and leaves you to combat these, as fixed and distinct diseases; whereas doctor Rush more correctly views these several forms of fever as modifications, and, consequently, all members of the same family, no one having any fixed station, but all liable to exchange of places—and this is all we mean by febricular, simple, inflammatory typhus, &c. The writer has constantly

observed more or less of these febricular grades of fever in all typhus epidemics. Doctor Rush found this grade of fever in many persons in the fatal yellow fever of 1793—and we believe the opportunity of every observer, experienced in such matters, will afford him similar cases, not only in typhus epidemics, but in all others. We do not however wish to be understood to express, as our opinion, that there is an actual sameness between febricular forms of fever of different character.—We believe febricular action to be a certain grade of disease, presenting in all cases nearly the same phenomena, but differing in its intrinsic nature—which difference arises from some peculiarity in the remote cause. Thus, febricular typhus holds the same relation to malignant grades of typhus fever, that febricular yellow fever bears to malignant grades of yellow fever. All which is in accordance with our opinion, already expressed, that fevers are constituted with specific differences by their remote causes.

We believe we are here pursuing a middle course between the opinions of doctor Rush and doctor Armstrong. The former refers all fevers to a modification of a morbid state of derangement, principally in the blood vessels; and refers different kinds of diseased action to different degrees of force. The latter on the other hand, would, we think, lead his readers, if they were unacquainted with the writings of Rush, to the belief that there are different kinds of typhus fever, simple, inflammatory, and congestive typhus. Now we believe with doctor Rush, that the several varieties of typhus fever, of which we treat, are only different grades of one disease, but we differ from him in believing that these grades all differ from other kinds of fever. We believe with doctor Armstrong, that typhus is a peculiar disease, having several varieties; but we differ from him in believing there is but little difference in these varieties, except in force, and that they are more liable to run into one another than he would lead us to suppose.

There being a great similarity between the febricular grades of fever, in all kinds of fever, we can only expect to recognize febricular typhus by the circumstance of there being a typhus epidemic. If a person is overtaken with the symptoms, noticed by different authors, all of which may be expressed by the terms *a slight inward fever*, during a season of typhus fever, it affords the presumption of its being typhus febriculosus, and prudence requires that they should be circumspect in endeavouring to avoid the usual exciting causes.

In such cases the quantity of food should be lessened, and

the quality rendered less stimulant. All considerable exertion should be avoided, and especially, if there be any little turns of excitement at such times in particular, no exercise should be taken.

If in cold weather there should be little or no exposure, or if those indisposed will go abroad, they should be particular in dressing sufficiently warm. In a word, the most scrupulous attention should be paid to what has been called the non-naturals. In regard to medicine, it sometimes may be necessary, where cases become protracted, to take some of the milder purgatives or aperients. Castor oil or epsom salts, with small doses of antimony, are suitable remedies. In more serious cases, an emetic of antimony or ipecacuanah will have a very beneficial effect. But it is especially our duty to warn those who fall within our notice, under such circumstances, to avoid exciting causes, since there is great liability to other forms of the fever supervening. If those, upon whom we cannot discern the influence of the febrile poison, are constantly liable to be seized by typhus fever, from exposure to the usual exciting causes, how much more risk must there be, that those who are already showing its effects upon their bodies, are still disposed to take on some of the severer forms of the disease.

### *Simple Typhus Fever.*

By attention to what has been said by doctor Sydenham of fevers of his first constitution, we may venture to decide, that he treats of typhus fever under the term continual fever. He tells us that in the autumn 1661, there prevailed a remittent fever, which often proved fatal. The sick were suddenly prostrated, and the tongue was often dry and blackish. As the season advanced, vomiting, dryness of the skin, great thirst and black tongue, were common. He also says, "this I certainly know, that there was but one species of continual fever from 1661 to 1665." The author does not here mean to say, that there was no change in all this time, but expressly tells us there were peculiarities in different years, but the general character did not change, this being what may be called a typhus constitution. He tells us that "nothing is more common than for inexperienced physicians to blame malignity, when by cooling medicines, &c. they have reduced their patients." The fact of Sydenham's ascribing increased danger to a cooling regimen, is of itself sufficient to prove that this was typhus fever, and when



properly treated, it appears to have been simple typhus principally, which prevailed during this constitution.

It will be recollected that the great plague raged in London in 1666, and doctor Sydenham says, that in the early part of this year, diseases assumed a much more inflammatory type. This plague or malignant fever was readily changed by over stimulation into a disease, greatly resembling typhus gravior, so called by doctor Cullen.

The fourth constitution of doctor Sydenham gave rise to much "cholera morbus," which is said, indeed, to have been epidemic—a proof this, that a bilious or miasmatic constitution prevailed. During the summer 1669, "gripes" prevailed to great extent. The succeeding winter put a stop to these intestinal diseases. As the summer came about again, the disease grew more frequent, and at length became epidemic. He says, "if the patient is in the flower of his age, or has been treated by cordials, he has a fever, and his tongue is covered with a whitish mucus—and if he has been much heated, it is black and dry, the strength is much dejected, the spirits are dissipated, and all the signs of an ill favoured fever are present." This fever was of a low grade, otherwise, we cannot account for the high encomium which doctor Sydenham bestowed upon opium. His encomium is so remarkable, that I shall cite what he has said: "and truly I cannot forbear mentioning with gratitude that omnipotent God, the giver of all good things, has not provided any other remedy for the relief of wretched man, which is so able either to quell more diseases, or more effectually to extirpate than opiate medicines. So necessary is this instrument in the hands of a skilful man, that without it, medicine would be very lame and imperfect."

We must not lose sight of the fact that doctor Sydenham is here speaking of a constitution, the prominent cast of which, was dysentery. We are aware, that it is in this disease especially, that opium is sometimes found so singularly beneficial; but this disease, being also occasionally inflammatory, such effects would not attend the use of the medicine, unless the epidemic had been of a low grade. The information here afforded is replete with instruction—it tends to show that epidemic diseases vary their character. The dysentery being the prevailing form of diseased action of the constitution before us, even the continual fever partook of the dysenteric character, and doctor Sydenham expressly says, that the dysentery was succeeded by a fever having precisely the symptoms of dysentery, except the "frequent stools." How far these intestinal diseases

may have partaken of the acute and subacute forms of inflammation of the mucous tissues, about which so much has been said the last few years, we cannot undertake to say; but there is little room to doubt, that this was the nature of some of the intestinal diseases noticed by our author.

Our limits will not permit any great amount of quotations, but we deem it so important to compare some of the opinions of the earlier moderns with those of later times, that we have thought proper to pass in review some of the facts and opinions, recorded in the works of doctor Pringle, in addition to what we have cited from doctor Sydenham. Doctor Pringle says that "in 1745 at Litchfield in England" owing to the crowded state of the hospital, inflammatory fever became jail fever, of which many died. This fever is said to have presented, in disguise, symptoms of the remittent fever, which had been brought from Flanders. We may presume from the description which is given of this jail fever, that it was typhus fever, and the circumstance of this fever blending with, or following so soon upon the heels of an inflammatory fever of the remittent kind of which mention is made, is another strong proof of the near similitude of the remote causes of remittent and typhus fevers.

This author also speaks of a continual fever which prevailed at Lyndhaven in Flanders, which seemed to him to grow out of a remittent fever which had previously existed. This disease bore a strong resemblance to the more severe epidemic continual fevers of doctor Sydenham; and seems to have led to many cases of typhus of the congestive or malignant form. The fever in Flanders was succeeded by a fever on ship board, precisely similar to jail fever, and was ascribed by our author to the men being crowded on ship board. Doctor Pringle, in accordance with the prejudices of the age, considered this a contagious disease, yet attributes its greater extent and violence to some mortified limbs on board. The disease abated soon after distributing the sick about the town of Ipswich.

Doctor Pringle states, as his opinion that hospital fever spreads most frequently by contagion, but is liable to be produced from other causes. We have already advanced as our opinion, that typhus is an idiopathic fever, proceeding always from one and the same cause, and we shall endeavour hereafter to show that secondary typhus, which often occurs as a consequence of other diseases, differs materially from true typhus fever. This author says, that "jail or camp fevers are incident to every place ill aired and kept dirty, or that is filled with animal effluvia from foul or diseased bodies." He also asserts that some persons will

resist the contagion for several weeks, suffering only the inconvenience of a slight fever, others will be overtaken after leaving infected places. We think these facts, related by doctor Pringle, were in their general character similar to those related by doctor Sydenham; and the diseases of which they treat may be ascribed to a sickly atmosphere.

Doctor Pringle's dissections, of hospital or jail fever cases, often discovered serious inflammatory affections of the brain and its meninges. This fact is so notoriously true as to have laid the foundation for doctor Clutterbuck's opinion of the cerebral origin of this fever.

Doctor Armstrong seems to have set out with the opinion, that typhus fever differs from other fevers, merely in being a contagious disease, the product of a specific poison. In the conclusion of his work, published in Philadelphia, he abandons this opinion, and thus destroys the whole foundation of typhus fever. He now ascribes this disease to the malaria which gives rise to common bilious remittent fever, and there is very little difference in the symptoms usually seen in bilious remittents, and those related as belonging to typhus fever—in what then does the typhus of doctor Armstrong consist? Here we differ with this author in this; we ascribe typhus fever, so far as it is peculiar in its nature, to a specific cause, and therefore differing in some degree from the cause of bilious remittent. That difference may, and we think does consist of a mere modification of one common malaria.

So nearly do bilious and typhus fevers resemble each other, and so often do they exist together, or fall in upon the heels of each other, that there can be no room to doubt the fact of a very great similarity in their remote causes. We know that most chemical affinities are under fixed proportions in the union of the same simple bodies—different doses, or proportions, of the same elements, produce very dissimilar compounds. If then, we should have malaria of different kinds, produced by different proportions of the same elementary ingredients, we may expect to have a different effect when these different combinations are introduced into our bodies.

Our general experience agrees with that of doctor Armstrong, in relation to the fact, that typhus fever prevails most in cold climates; and in the colder weather of the milder climates. This would seem to prove, that if these fevers are produced by miasm, that typhus fever must be the product of a different modification from that which produces common bilious

fever, since the first cause is most active in the colder, and the latter most common in the warmer climates, and in the warmer months of the milder climates. Doctor Potter tells us, in his notes on doctor Armstrong's work, that the "fact of typhus fever prevailing most in cold weather, has been most incontestably settled in this country."

Doctor Armstrong says that typhus fever is most unquestionably an affection of excitement, or congestion in its first stage, demanding at this time, the evacuant plan. That this is true to a certain extent, cannot be doubted, but doctor Armstrong is here again removing all foundation upon which to rest the disease which he calls typhus fever. Deprived of his contagion, we find him treating of an inflammatory disease, where then the propriety or necessity for the term typhus? On this view of the subject, we have in his work nothing but varieties of common remittent forms of fever, arising from malaria. The truth seems to be this, typhus fever is the product of a specific poison, nearly similar to that which gives rise to our bilious remittent or autumnal fever, but differing, as we have already seen, in each, prevailing to greatest extent in different climates, and different seasons. And differing in this, that the remote cause of typhus fever seems more especially to invade the cerebral structures; and more constantly and decidedly exerts a prostrating effect, which requires great caution at all times, in the use of depletory measures; while the remote cause of common remittent fever gives rise to an earlier and more clearly marked state of excitement of the heart and arteries, with less disturbance of the cerebral structures, and less disturbance of the venous circulation.

This author says, "in strict propriety of language, typhus fever can only be denominated simple typhus in a relative sense. It is really the least complicated form of this disease in which the febrile excitement or hot stage is developed, and in which there are no decided marks of topical inflammation." We have been led to conclude, that as a common intermittent fever gives the truest specimen of miasmatic disease, so does the state of things just pointed out in the above quotation, give the clearest manifestations of idiopathic typhus fever, both of these modifications of disease exhibiting the true type of each kind or class of diseases, to which they respectively belong. And in typhus fever, just in proportion as there shall be a more perfect equipoise, of the morbid derangement, throughout the body, so will the fever be more genuine in its kind. In this general, and peculiar morbid action, consists true typhus fever, because all local

irritations, inflammations, or congestions stand rather as accidental phenomena, and differ but slightly from whatever causes they may have their origin. These local associates are, however, enveloped in this peculiarity, that as the idiopathic morbid action is of a low grade, and as that action is disposed to become protracted, we must deplete with more circumspection than we would in inflammations from other causes.

Doctor Armstrong tells us, that he has seen patients who died of the strongest symptoms of inflammation of the brain, and, yet, upon dissection of the brain, no vestiges of inflammation, were to be seen. These cases show the importance of the opinion that we have just expressed, that our indications must be clear before we bleed; for we are persuaded that the cases just noticed had not passed the stage of irritation, and were, therefore, not yet fit subjects for venesection. We shall hereafter point out the treatment proper in those cases—it may suffice at present to say, that mild purgatives, the warm bath, and sinapisms are the chief remedies for this stage of typhus fever.

The author now before us, also says, that he has seen cases of death from typhus fever, in which no traces of inflammation or congestion could be discovered after death. And he has seen cases in which he discovered a congested state of the capillary arteries, without the presence of lymph, the usual attendant of inflammation. Yet he thinks, in both these cases, there may be some degree of lesion, though it be wholly concealed. It must be admitted that inflammation sometimes exists without the presence of all its signs, but we think it would be unphilosophical; and is unsupported by fact, to believe in the existence of inflammation where the most usual effects are not present. The presence of lymph being a constant effect of inflammation, when seated in the arterial tissues, the absence of lymph, after death, is good evidence of there not having been a state of inflammation. Hence it is, that we refer all such cases as are here noticed, to a state of irritation.

Irritation being the cause of death in other diseases, leaves no room to doubt of a similar condition of things in typhus fever. And as we believe that blood letting is seldom admissible in irritations of other kinds, so do we deny its propriety in cases of typhus irritation. Doctor Rush seems to have anticipated us in this view of our subject; though perhaps, not clearly expressed. We allude to his advising, as a general rule, that we meet the state of excitement in fever, with the lancet, in all cases of fever having any such stage. This advice was given

at a time, when the whole medical world were blindly following doctor Cullen, and others, who were prescribing for diseases, by their names alone.

There appears to be a necessity for explaining here, our views of irritation, as it stands related to the stage of *apyrexia*, of which we shall have occasion to speak presently. The cases noticed by doctor Armstrong, as presenting all the signs of inflammation, during the illness of the patients, and, in which, no vestiges of inflammation or lesion were found afterwards, are, in our opinion, pure cases of irritation. The other cases, which exhibit congestion of the capillary arteries, without an effusion of lymph, hold an intermediate place between simple, irritation, and inflammation. In both these conditions, we believe that death is occasioned by irritation; and in the latter instance, nature not being wholly vanquished, so to speak, by an overwhelming cerebral irritation, shows a feeble effort at setting up a state of excitement and inflammation—the stage of excitement may be developed to a certain extent, without actual inflammation; and this is a state of things, not only admitted, but insisted on by doctor Armstrong, as we shall see, as we proceed.

Doctor Armstrong says, that simple typhus, has a first stage of oppression, a second of excitement, and a third of collapse. We differ somewhat here, with our author. We say, the first is a stage of prostration, to more or less extent, occasioned by cerebral irritation. A morbid general derangement immediately supervenes upon this irritation, the predominant tendency of which, is to stir up a state of excitement, or reaction. This excitement may be local or general, and commences in some cases with the state of irritation—in most it supervenes at different periods, of from a few hours to three or four days.

If our author's views were correct as applied to typhus fever, as we believe they are in the state of oppression in some other fevers, we should bleed in anticipation of the state of excitement in typhus fever, as we do with much advantage in other fevers: but, every experienced physician knows, this will not do in the first stage of true typhus, unless there be some unusual circumstance present to justify it. We here rely on gentle emetics, purgatives, warm bath, &c. The second stage being developed, no practitioner can hesitate, we think, this being a state of excitement, to reduce that excitement by the lancet to more or less extent, also by active cathartics, and antimonials.

In cases of febricular typhus, there is almost no reaction,

or if there be it is very transient. In simple typhus, there will generally be very evident excitement, and if the disease is well treated, we shall not have a state which can, with any propriety, be called a stage of collapse—at all events there will not be a condition requiring more than a very moderate use of stimulants or tonics, if any. We believe the state of collapse to be almost entirely peculiar to malignant and congestive cases of typhus fever.

The symptoms which usually usher in typhus fever clearly show, we think, a state of direct prostration of bodily strength for the time; primarily on the sensorial organs, and secondarily, a reduction of all the powers of the living body. The symptoms which usually characterize the first stage of typhus, indicate a peculiar state of prostration; peculiar, because it is the product of a specific poison; and peculiar, because it is the natural tendency of the poison in its operations on the living body to bear it down, so that reaction takes place more slowly, less certainly, and less readily than in other kinds of fevers. We have usually first some uneasiness of the head, with languor or prostration of strength, weariness and dejection, paleness of the face, occasional sighings, mental listlessness—then come cold creepings, the skin becomes hot and cold alternately—there is a loathing of food, nausea, vomiting, anxiety about the precordia, giddiness, pains in the head and back—pulse feeble and slightly irregular, tongue foul and whitish. But especially the patient is distressed by a sense of prostration, and is loaded with an indescribable corporeal, and often mental distress. In short, although the symptoms mentioned are in greater part common to all fevers, yet to the experienced physician the tout ensemble of the symptoms of typhus fever, portrays the peculiar debility present, to which we may add the fact that this stage of prostration has greater duration than in other kinds of fevers.

In the more ordinary fevers, the state of apyrexia, (for by this name we mean to distinguish our *first stage*) is shorter, the system not only reacts more promptly, but we know by observation, that the system will rise out of it without having suffered so much as in the first stage of typhus fever. The difference, we believe, is owing to greater cerebral irritation in the last named disease.

We venture to assert that in a majority of cases of typhus fever, we shall do harm by blood letting, or very active purgatives, during the stage of apyrexia. Doctor Armstrong's opinion agrees with our own, when he tells us that mild emetics,

mild cathartics, and warm bath, are principal remedies for this stage of the disease; in addition to which, we have seen much advantage from the use of hot lemonade, drank freely till it produced free perspiration. It is well known that this simple article often succeeds in warm climates, in arresting fever in its stage of apyrexia, or "forming state." We are using the word apyrexia here, in somewhat of a new sense, but as in the state of things before us, pyrexia will succeed, we think there can be no sound objection to the term apyrexia, for the forming stage of this fever.

Instead of examining simple typhus as having a stage of oppression, of excitement, and of collapse, as proposed by doctor Armstrong, we prefer continuing our remarks, under the divisions of apyrexia, pyrexia, and secondary apyrexia. We object to the epithet oppression for the first stage, because we believe the system to be in a very different state from what we see in other diseases of an inflammatory kind, in which there is a state of "suffocated excitement," calling for the most prompt and energetic blood letting; as we see in cases of apoplexy, from mere turgescence of the vessels of the head; or sometimes in malignant fever, of an inflammatory cast. We prefer the term apyrexia, because by it we inseparably associate the first stage of the fever with the second. The state of excitement not being present in the first stage, we cannot view it as fever fully formed; it is not, therefore, a state of pyrexia, and as all the circumstances are in place to produce excitement, we think the term apyrexia sufficiently expresses the condition of things present.

To the term excitement for the second stage, there can be no serious objection, but as we prefer the term apyrexia for the first stage, we prefer its opposite, or pyrexia, for the second stage. It is our opinion that in typhus fevers of cold seasons, the brain suffers especially, as well in the stage of pyrexia, as in that of apyrexia; and hence the foundation for the opinion of doctor Clutterbuck, that typhus fever is symptomatic of cerebral inflammation. But it is certain that seasons and circumstances, in relation to the febrile poison, and the peculiarities of the sick, will lead to inflammation in other viscera, sometimes with, and sometimes without, inflammation of the brain, as has been shown by doctor Armstrong.

The term collapse, we think, does not well express the condition present in the third stage of simple typhus fever. This state, we believe, is accompanied with venous congestion to more or less extent, which is perhaps better expressed by the



terms morbid turgescence of the veins. This may be partial or general—and we believe further, that there is a degree of deterioration of the blood; together with some derangement or abatement of functional powers, extending more or less to the sensorial, circulatory, secretory, and excretory powers—the term collapse does not well express this state of things in any of its usual acceptations.

With this brief notice of the stage of apyrexia, we now proceed to a glance at the symptoms of the stage of pyrexia. Except in those cases of simple typhus, which end fatally from cerebral irritation, we are always to look for a stage of pyrexia. This stage is usually characterized by the following symptoms. The pulse will become more resisting, if not more full and expansive, and the arteries will take on the state, which has been termed a jerk by doctor Rush, and a jar by Mr. J. Hunter, and the state of wireness of doctor Good—the face becomes less pale, if not flushed, the eyes more dull or heavy, the lips, mouth, and fauces more dry, greater dryness of the skin, respiration more disturbed, increased heat of the body, the tongue fouler, and inclined to a brownish colour, increased thirst, greater vigilance. The disease now more nearly resembles common remittent fever, having morning remissions, and evening exacerbations. The prostration of the bodily strength is peculiarly great, particularly during the exacerbations; the bowels become torpid, the tongue blackish and still fouler, secretions and excretions become changed, feces mostly dark and offensive, and without singular care, the body takes on an offensive smell. This stage of pyrexia will be different in its duration, according to the peculiarities of habit, &c. of the patient, and mostly in an especial manner, by the predominating cast of the reigning epidemic. The cure will also be much influenced by the regimen, or medical treatment, especially errors in either, and by the occasional improprieties which the patient may be guilty of, in relation to diet, drinks, and the like. In a very great majority of cases of simple typhus, provided the patient has been well treated in all respects, this state of open pyrexia gives way to a state of convalescence. In some, however, notwithstanding every precaution, we shall have a stage of exhaustion, or secondary apyrexia. Among the favourable signs, we may notice particularly, a cleaner state of the tongue, more natural evacuations, a mild diaphoresis, refreshing sleep to more or less extent, abatement of thirst, improvement of countenance, pulse more equable. In this state we have often found a quickness of the pulse, which is favourable, but which may readily be

mistaken for a frequent pulse. We have only to count the beats, if there should be any difficulty in deciding this point.

In cases where there has not been a proper course of treatment or conduct pursued, a disease which may have been ushered in in the form of febricular typhus, may pass through a stage of simple typhus, and reaching its acme of excitement, or state of pyrexia, may suddenly become congestive or malignant typhus. Should the case, however, become protracted in the simple form, we shall have a stage of secondary apyrexia, or exhaustion. In such cases, the respiration becomes more hurried, feebler, and more anxious, the sensorium more disturbed, the countenance more dejected, the prostration of strength much greater. There is great dryness of the tongue, mouth, and fauces, with much feebler voice, indistinct articulation, pulse becomes much weaker, and more frequent and irregular, heat of the body, less than that of the state of excitement, but mostly greater than that of the first stage. We now have some appearance of remissions, though often indistinct, much restlessness, cadaverous smell, mostly some cough. But we may remark here, that pneumonic symptoms will prevail most in cold seasons, and the feces will be darker in the warm seasons, especially during the existence of a bilious constitution. The debility now becomes extreme, the patient can only lie on his back. As the disease advances, we have low muttering delirium, subsultus tendinum, drawing up of the feet, fumbings, &c.

Doctor Armstrong, speaking of simple typhus, says, "when properly treated from the beginning, this variety of the disease generally terminates favourably, but when neglected or maltreated at an early period, it frequently proves mortal." We consider this an opinion requiring some qualification, and one which savours too much of nosology. What is an aggravated case of simple typhus, but a new grade of the disease? That is, simple typhus does not continue, attended with the phenomena peculiar to the simple form, but before it can become fatal, it must take on some other form, and becomes congestive, inflammatory, or malignant. We believe that such a state of things, as a collapse, in simple typhus, which does not in its stage of excitement, reach a state of inflammation, is extremely rare. The truth is, that there is no inflammation without its foregoing irritation. And we believe it to be a truism in pathology, that where the irritation is, there also will be the influx, or usual signs of inflammation. If we see the most dangerous state of prostration in colic, from irritation without inflammation, we cannot be surprised to see an irritation of so impor-

tant an organ as the brain, occasioning death before the usual phenomena of inflammation have been developed; but still these cases are so uncommon, that we hold that death, from simple typhus, is little more than a possible case. We can never be too vigilant in watching cases of simple typhus, since it is always liable to run into some other grades of this disease; and may betray us into fatal mistakes.

We think that nothing connected with our subject, is of more importance, than constantly keeping in view, that the several forms of this disease may not only run into each other, but, that, the several stages of the same form are liable to daily mutations. We may have inflammation almost simultaneously with the first stage. We may have the stage of exhaustion, from the first, or second paroxysms, especially in weakly or depraved habits. Too copious depletion in the stage of excitement, may throw the patient back into the stage of apyrexia; or advance him forwards into a stage of secondary apyrexia, or what has been termed a collapse.

This view of the subject brings us the conclusion, that he is the most judicious physician, who keeping these convertible points before him, never ventures to prescribe in anticipation. By such precaution, he will be prevented from prescribing by the name of the disease, the form of the disease, or the stage of the disease, for one single day. He will not sit down contented, because he recognised a case to-day to be simple typhus, because he has no guarantee that the state of things present to-day, will exist to-morrow. Let him admonish his patient, that the utmost care is necessary, till convalescence is well established. Patients should be regularly visited, and advised to send for their physician, if any symptoms occur, showing any material change in the case during his absence. We believe many lives are lost, for want of attention to this admonition; and it too often occurs with our better practitioners, owing to their having too much to do.

Doctor Armstrong, as we understand him, speaks of a state of excitement principally, if not wholly, as an acceleration of the circulation. And yet, says, that this increased circulation of the blood may not always disturb the viscera in so great a degree, as to throw much difficulty in the way of recovery; that the larger viscera can sustain a degree, and duration of vascular action, without much injury. It is somewhat remarkable that this author, when he penned the opinion just quoted, was a contagionist, and founded all the peculiarities attending typhus

fever, on the existence of this peculiar contagion; and yet speaks of the state of excitement, as a mere increase of action. We think that nothing connected with typhus fever, is better known than the fact, that the excitement is more detrimental by the morbid action present, than by the increased action. We have elsewhere intimated, that we have only to substitute a peculiar malaria as the remote cause, instead of imaginary contagion. This malaria, we suppose, gives rise to the disease, and the peculiar character to the whole of the attending phenomena; so that to talk of simple excitement, is to lose sight of the remote cause, which alone can give rise to that which makes typhus fever differ from other fevers.

The author above quoted, says, that for want of having carefully noted the different expressions which typhus fever puts on at different periods, some systematic writers have almost entirely overlooked many of the most essential parts of the first, and second stages of the disease; and have dwelt principally upon the last, and have thus contributed to support the dangerous doctrine, that typhus fever is always a disease of debility. "In the first stage of the simple typhus, the debility is only apparent, and chiefly dependent upon the preternatural accumulation of blood in the veins of the head, heart, and liver, and other internal parts, while there is less circulating upon the surface of the body, than in the natural state. In the second, the debility is still only apparent, being then the consequence of over excitement of the heart and arteries, but in the third and last stage, beyond all dispute, it is real." If this reasoning be correct, without some qualification, then there can be no such thing as idiopathic typhus fever, and according to the modern acceptation of the term typhus, we should have typhus action in the last stage only. Admit that we have a stage of oppression, a stage of excitement, and a stage of collapse, and there is nothing in all this, but what we see daily in fevers, not typhus, and besides such a typhus condition would seemingly, not differ from typhus action, succeeding other fevers. It is well known to all physicians, that common fevers do occasionally, and more especially, when treated on too stimulant a plan, take on low action, which has generally been termed typhus fever. Of this secondary typhus, we shall treat hereafter. We will just repeat here, that typhus fever is an idiopathic disease, and the product of a specific remote cause—that that cause has a directly exhausting tendency, in so much, that in many cases of typhus fever, no reaction or open excitement ever takes

place, owing to the force of the poison being such, as to depress the vital powers below a state of recovery.

### *Inflammatory Typhus.*

Among the positions which we have attempted to prove in our remarks upon simple typhus fever, are these—Simple typhus begins and runs its course without fully established inflammation, and therefore inflammation is not “its essential and inseparable companion.” And we believe with doctor Armstrong, that “when this peculiar disease and inflammation are combined together, it appears only reasonable to conclude, that the latter may have been produced by cold, or any other common cause of fever;”—“that it may have arisen, as an effect of the excitement of the heart and arteries, favoured by some predisposition to inflammation in the part affected.” This author, elsewhere, places typhus fever and inflammation in the relation of cause and effect—the fever being an idiopathic affection, in which there is a general derangement of action, which predisposes to inflammation, but nevertheless, in most instances, the inflammation has its own exciting cause.

We consider the above views from doctor Armstrong, alike correct and important. We also fully approve the following sentiment: “in pleurisy and similar disorders, the seat of fever may be local;—its general effects and its nature inflammation; but some ingenious authors, with Plouquet and Clutterbuck at their head, seem to me, to have proceeded too far, in confidently asserting that this is actually the case, in what are called idiopathic fevers. As an example in point—typhus, undoubtedly sometimes begins and terminates without topical inflammation.” Believing, as we do, that inflammatory typhus, or rather typhus with inflammation, does not materially differ from other inflammations, so far as the inflammation is concerned, we shall not extend our observations on this part of our subject, to any great length.

All fevers have a stage of apyrexia, which stage consists principally of irritation—in typhus disease, that primary irritation exists in the brain, and from that circumstance was the term typhus originally adopted by Hippocrates. We believe that idiopathic typhus fever has no inflammation necessarily attending its course. But, by a law of the system, almost universally operative, wherever there is protracted irritation, there will be inflammation, and that inflammation will be modified by the peculiar irritation. And although inflammation is to be

treated upon general principles, yet as the inflammation may, or may not be associated with idiopathic fever, it will follow, as the one or the other shall be the fact, so must we in a proportional degree vary our depletory measures. A patient affected with pleurisy, for instance, has a fever as a consequence of the local inflammation; by depletion, &c. we may remove the fever, which stands in the relation of an effect. But in typhus fever, the case is very different; the inflammation being here but an effect, we must be careful, that in removing this, which stands in the relation of an effect, we do not augment the cause; that is, the general fever. Now, although nothing can be more clear than the necessity for blood letting, and sometimes to the amount of several repetitions, yet every judicious physician is aware of the necessity of the greatest circumspection in the employment of our depletory measures. In a word, then, although the inflammation, in the abstract, is nearly the same, yet in typhus fever, it has an unnatural and ill-natured associate; while in pleurisy, and many similar affections, it has no associates, but those of its own creation.

No one can be ignorant of the fact, that certain medicinal agents have peculiar influence over certain viscera—thus tartar of antimony produces emesis by its influence on the stomach; the heart and arteries may also be brought sensibly under its influence, by giving it in smaller doses. Aloes exerts something of a specific effect upon the larger intestines, ergot on the womb, cantharides and many other things upon the kidneys, but especially, we may notice the astonishing effects of inhaling the nitrous oxyde gas, and the horrid spectacle of instant death, by the application of the prussic acid, even when topically applied. If, then, we see these special influences, and relations, we can have no difficulty in believing, that as the atmosphere is known to give rise to epidemical diseases, and as these diseases are varying with the seasons, and years, and constitutions of years—that as the pestilential state of the air shall change, so shall certain viscera be liable to suffer, more particularly, just as in the case of the medicinal agents which we have just noticed. This would a priori seem reasonable, but we think facts speak so loudly as to render the matter incontrovertibly certain. We see typhus fever disposed one year to assume a bilious aspect, another year disposed to pneumonia, again to dysentery, to enteritis, then to acute and subacute inflammation of the mucous tissues, especially of the stomach and bowels. What can these peculiarities grow out of but some peculiar condition of the air,

which disposes to this or that viscus; just as we see in the special influences of medicinals on particular viscera.

These influences are in a great degree inscrutable, except as we observe something of their effects; they, however, are obviously governed by certain locations, and by the sensible signs of the weather, at least as relates to the different seasons and to different climates. Typhus fever in locations subject to bilious remittent, in the summer particularly, will have associated with its own action derangement of the biliary organs. In cold locations, and cold seasons, typhus fever will be attended with pneumonic symptoms. And we think, we have observed, typhus fever of the summer more apt to be attended with dysenteric symptoms, and in the winter, enteritis, or acute, or sub-acute inflammation, of the mucous tissues, is more common.

It is particularly important that we bear in mind, that at the onset of epidemic diseases, we have only to watch carefully a few of the first cases to discover what are the leading characteristics of the disease. For although there will be exceptions, yet as a general rule, we may feel assured, that the general tendencies will be the same. We must not forget that typhus may change from one form of the disease to another, in a few hours, but still as every season has its own peculiar atmospherical contaminations, so will these atmospherical changes beget a liability to inflammation, in some one viscus; and, perhaps, two or more; and hence the reason why we have typhus fever with bilious symptoms, with gastric, or pneumonic affections, &c. And, although we consider the brain as being always more or less implicated, yet, in some seasons, this will be in much greater degree than others.

### *Inflammation of the Brain.*

We are now prepared to enter upon our views of inflammation accompanying typhus fever. We have already stated, as our opinion, that, as the brain is the organ more especially obnoxious to the inroads of typhus fomes, so may it be supposed to be most liable to inflammation. This important structure may, however, occasionally take on but a moderate degree of excitement or inflammation, while some other viscus, as the liver, lungs, &c. may take on an inflammation of a more violent kind.

It appears to us, that we may almost invariably look for some degree of inflammation in typhus fever, unless the disease be very mild. When it does occur, we find the inflammation in the

brain, in the liver, in the lungs and their appendages, in the mucous tissues of the stomach, and bowels, &c. Other viscera are, no doubt, occasionally concerned, but they are too unimportant to have much influence on the disease, or involved in so much obscurity as to elude our observation—we may, however, occasionally recognize a disordered state of the kidneys, bladder, or uterus.

In looking over doctor Armstrong, we find much valuable information on the subject of those symptoms which usually indicate inflammation of particular parts; but we also notice a repetition of various symptoms; among these, those that are common to every form of this disease, and an affected scholastic precision in tracing varieties which we think altogether unimportant, and altogether unattainable—doctor Armstrong and others may claim the ingenuity of discriminating certain affections of the viscera, but we venture to assert that many of his more minute distinctions are more the work of the closet than they are clinical. So innumerable are the shades of difference of symptoms, so variant may be the amount of inflammation in this or that viscus—so many or so few may be involved.—So much are all cases under the influence of accidental circumstances, that to attempt too minute a description is only making a subject already very complex and difficult, still more so. But this subject is less complex than we at first might imagine from a hasty glance at its great diversity of aspect—let us reflect that the object after all our pains taking, is to find the amount or force of morbid action, how far connected with inflammation, and then proportion, as nearly as we can, the force and nature of our remedies—and, although inflammation of certain viscera may require some peculiar treatment, yet the skilful physician will often find this a matter of minor consequence—too anxious an investigation into these local affections, will only obscure the way of the young, and but little illumine the path of those more experienced in the profession. We shall, therefore, content ourself by pointing out a few of the more remarkable symptoms which attend inflammation of important viscera, after giving a very brief notice of the prolixity of doctor Armstrong, to which we have just objected.

It has been remarked by doctor Armstrong, that, in simple typhus, there are generally morning abatements and evening exacerbations, but whenever typhus is complicated with inflammation the remissions are scarcely ever observable. This we believe to be generally true, but not to the extent our author particularly at an early stage of the inflam-



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belong particularly to a state of inflammation of the brain; and, indeed, some of them manifestly should be referred to the malignant forms of typhus fever. If the reader will take the trouble to turn back to our quotation, and notice the words we have marked in italics, we think he will at once see how unnecessary, nay, we will say censurable, to swell out a long list of symptoms, as belonging to inflammation of the brain, many of which, exist in simple typhus, according to doctor Armstrong's own showing.

Let us, then, enumerate the symptoms more especially belonging to this form of the disease, or typhus fever, with acute inflammation within the head—for this purpose, we select such terms as are marked in the preceding page. They are great irritability; deep pulsating pain in the head; redness and morbid sensibility of the eyes; heavy sighs; fretfulness; jactitation; indifference to surrounding objects; faltering, or imperfection of the speech; gradually increasing stupor; stupid suffused watery eye; squinting, or dilatation of the pupil; paralysis of one of the palpebræ, stertorous breathing; general convulsions. We do not mean to say, that these are the only symptoms to be seen in cases of inflammation of the brain. We know there are many more, occasionally present; but we believe, those we have enumerated, more especially indicate inflammation within the head. Vibices, petechiæ, and oozing of blood from the mouth, &c. we refer to cases taking on the malignant form of typhus. To these symptoms, may, properly be added, the suggestion of our author, to shake the head of the patient, or rather, let him do it himself, and if there be inflammation, there will be much pain.

One of the more uniform circumstances attending typhus fever, is its greater duration than that of most other diseases of the febrile kind. This would seem to prove, that violent or acute inflammation is not common in inflammation of the brain. Indeed, we believe, that in most cases of speedy death from inflammation of the brain, the case belongs to other forms of the disease; mostly, to the malignant. In most cases of this kind, notwithstanding the importance of the organ affected, death is not more the consequence of the local inflammation, than of a general and violent derangement. In some habits, miasmatic poisons act with a most rapid and destructive force. Acute inflammation of the head, however, it must be admitted, continues sometimes for several days, and if skilfully treated, terminates in recovery; but if maltreated or neglected, after a few days, at furthest, it will terminate fatally. In all such cases we are to

look for such symptoms, as generally characterize inflammation of the brain, from other causes.

The fact, that typhus fever is of a protracted kind, and the brain, especially, apt to be affected in this disease, serves to support the opinion, which we believe to be true, that the sub-acute form of inflammation, is much the most frequent, in diseases of typhus action. We deem it unnecessary to enter minutely into the symptoms which are said to be peculiar to sub-acute inflammation of the brain. We believe, that in a majority of cases, the transition is so gradual and so imperceptible, from a state of common excitement of the brain, to this form of inflammation, that we can seldom decide, where the one begins, and the other ends. And further, we do not believe, (at least, such is the result of our own observation) that there are any symptoms in particular, by which, we can, with any degree of certainty, decide, whether subacute inflammation be present. The only material difference in the symptoms, attending acute and subacute inflammation, is the fact, that in the former, all the symptoms are more violent, and of shorter duration, than those of the latter. However much doctor Armstrong may have exerted his ingenuity to point out the signs which distinguish these morbid states, he has, in our opinion, only rendered the subject more difficult, to the younger part of the profession, and in this respect, does not instruct those, further advanced in experience. A careful inspection of the face, with a few prominent symptoms, will show us when inflammation is present; and we decide, whether the inflammation be acute or subacute, as well by these few important signs, as by the most laboured and minute inquiries. For it is a fact, after all, that we cannot, after the most scrupulous attention to symptoms, and circumstances, decide, as to the actual force of the disease. Symptoms that appear truly appalling, will yield, sometimes, unexpectedly, to a little depletion; while in other cases, measures, adopted with our best judgment, will seem to let loose a new train of symptoms and sufferings, upon the system, which may run a course unconquerable, and resistlessly hurry our patient to the grave. We hold it to be a maxim in medicine, that it is always dangerous to presume to know too much. He, who by a sort of semi-closet speculation, will particularize, till he presumes he can define forms and grades, and states of disease, as he finds out the dimensions of some solid figure, is not only to all intents a rank nosologist, but will be sure to bewilder and disappoint those who presume to tread in his

foot-steps. His steps, like those of the wary Indian, are not only difficult to follow by others, but often could not be retraced by the maker of them.

We might suppose *a priori*, that whether a patient die of acute or subacute inflammation, the post mortem appearances will mostly be the same. If the former produces a certain degree of vascular action, turgescence, &c. in a short time the latter, we may suppose by a longer continuance of milder derangement, will lead to similar results, and we believe this has been verified by our dissections generally. It turns out, as we might reasonably anticipate, that the appearances, on dissection, do not differ from the effects usually attendant upon inflammation, from other causes. This circumstance serves to point out a clear distinction between simple excitement of the brain, and inflammation of that organ. This fact, which we believe to be incontrovertible, disproves the theory of doctor Clutterbuck. Still our professional pride is humbled here, in having to acknowledge, that these distinctions are only clearly seen, after our patients have paid the debt of nature, and want not our skill. We have already given as our opinion, that in these cases, death is principally ascribable to irritation; and, although we must admit, that inflammation often leads to extreme danger, and sometimes to death, yet as a general fact, we believe that where we have true inflammation, in typhus fever, we have, under judicious treatment, least danger.

The writer has not seen much of that inflammation of the spinal brain, about which doctor Armstrong has said a good deal. There is much reason for believing, that the spinal cord, is often seriously concerned, in febrile diseases. This affection should not be lost sight of, as it will, doubtless, be found, sometimes, the only seat of inflammation, in some cases of dangerous aspect. And it may claim some special attention, when associated with inflammation of the brain, or some other important organ. When we have considerable excitement, without obvious inflammation, we should look to the spine, and must not forget, that as the acute and subacute inflammations exists in all other viscera, that we may meet with it in the spinal brain also. We believe that one of the most uniform symptoms of inflammation of the cord, is a very distressing pain at the scrobiculus cordis, resembling that generally attendant upon tetanus. Our experience induces us to believe, that inflammatory affections of the cord are generally obscure, and the less cognizable, from the circumstance of any deranged influence, which it may exert on the system, being lost sight of;

because, functional derangement of some important viscera, which arises from this cause, may lead our attention to such viscera, as the true seat of the diseased action, which depends upon the spinal disturbance, and affects the viscera secondarily.

With these remarks upon excitement of the brain, viewing that organ in its extended form, we proceed now to that part of our subject, which involves biliary derangement, especially in relation to inflammation of this organ.

#### *Inflammation of the Liver, and Biliary Affections.*

We have elsewhere expressed, as our opinion, that typhus fever appears to have, for its remote cause, the malaria which gives rise to bilious fever, there being some modification merely, which constitutes all the difference we discover, however remarkable it may be. The biliary organs being acknowledged on all hands, to be more particularly obnoxious to that form of disease, we are prepared to expect, that as there is much resemblance in the causes, and the location of the causes, is often the same, that there will be considerable proclivity in typhus fever, to take on bilious symptoms. That is, the fact must be familiar to all whose opportunity for observation entitles them to the exercise of opinion on this point, that summer typhus, at least, is attended by bilious affections.

The liver being, as far as we can understand, the subject, the principal of the chylopoietic viscera, we may conclude that it partakes in greater part of diseased action. In examining the concern which this organ has in febrile diseases, we must carefully bear in mind its three several tissues or structures, which may more or less modify the diseased action, as the one or the other of these are involved. In looking at the anatomy, we observe the membranous linings, the parenchymatous and a vast vascular tissue. Each of these, having a peculiar economy, we may expect much diversity in the signs of disease of the liver, as some one or more of these tissues shall happen to be involved. But fortunately, our inquiry into the diversity of morbid action in this viscus, is more a matter of laudable curiosity, than of real practical utility—all we can, in general, ascertain satisfactorily, is whether there be inflammation, and to what extent or amount of force. But even admit that we can sometimes feel pretty confident, that this or that tissue is affected, still our indications of cure will be nearly the same. It is, however, important to know, that this organ, like all others, is liable to the acute and subacute forms of inflammation, and they

bear the same relation to each other, that obtains in other viscera.

Where the inflammation is seated in the upper surface of the liver, it may not at all times be an easy matter to distinguish it from inflammation of the lungs or pleura, as there will be more or less consent of action, with more or less cough in either case. In affections of the liver we may generally discover some fulness in the right hypochondrium, and some degree of pain in making pressure, especially if the edge of the hand be pressed somewhat under the ribs. There is usually some pain or uneasiness about one or both shoulders—patients lie with uneasiness, if at all, on the left side; sometimes the inflammation is seated in the left lobe, and some hardness will be felt in this lobe, and also in the epigastrium.—There is usually a sense of burning or heat at the cardiac region of the stomach, and a sense of stricture as the patient lies on his back. The sordes of the tongue, which is considerable, has mostly a dirty yellowish colour, or if, at first, it be whitish it soon becomes a yellowish brown. The patient, upon taking most kinds of purgatives, or an emetic, will discharge bile, more or less vitiated—sometimes naturally, or by taking mild purgatives, but more especially if calomel be taken, dark bilious stools will be passed.

Several writers of high respectability, tell us, what indeed must be familiar to every experienced physician, that inflammation may exist in one or more of the viscera, without giving any of the more usual, clear signs of such affections. If, then, some important viscus may be inflamed, and the signs concealed, and if we moreover know, that inflammation may manifest its presence in one organ by its usual signs, while it is at the same time, extending to other important viscera, without the usual signs, how vain to expect any satisfactory discrimination by which we may undertake to locate inflammation, associated with some one of the large viscera, in which we have several tissues differing from each other. Indeed, we believe the true state of the case to be this—wherever there is any very serious inflammation of any one tissue of such complex viscera, the liver, for instance, all its tissues will be more or less involved very speedily. After due examination of the subject, by reading and observation, we have been led to conclude, that we have no signs by which we can, at all times, satisfactorily judge of inflammation of the abdominal viscera. For ourselves, we rely principally on well regulated pressure with the hand. We believe that in most cases pressure will detect even the subacute inflammation of the liver, and also inflammation of the parenchy

matous structure. We here close our remarks upon inflammation of the liver, till we come to speak of its treatment.

### *Of Inflammation of the Lungs.*

Every physician must be familiar with the fact, that typhus fever is sometimes accompanied with inflammation of the lungs and their connexions, and few perhaps, can be insensible to the fact, of this affection partaking of two forms—the acute and subacute. But where the necessity for detailing the symptoms with minuteness—what are they but those which characterize inflammation of the lungs from other causes. We have already stated that this affection is so common as to give a peculiar character to the epidemic. It is true, we must never lose sight of the typhus action which precedes or accompanies these pleuritic affections—this association has an especial bearing on our practice, but still the symptoms attending the local affection will be such as properly belong to inflammatory affections of the lungs or their appendages.

We are aware of the fact, that inflammation of the chest may be seated principally in the membranous structures, may involve also, the deeper structures of the lungs, or may exist in the mucous tissues with one or both of the former associated. But, after all, it is but inflammation, and differs principally in its amount or force. If the inflammation be acute, it will be more sensibly expressed by severity of pain, or interruption of respiration. If the inflammation be subacute the symptoms will be milder till they shall have advanced to that period when all the mischief is produced, which is done so much sooner by more acute and violent inflammatory action.

Inflammation of the chest may be seen in typhus fever of every form and grade, from the mildest catarrh to the severest pleurisy; and from the slightest stricture of the chest to the most dangerous forms of peripneumony. This being the case, we cannot be surprised at seeing sudden fatal terminations when such serious local inflammation supervenes upon idiopathic typhus fever.

It has been admitted, that typhus fever and common remittent fever may exist in the same neighbourhood, and in the same season—we believe it is equally certain, that in seasons in which typhus fever has attendant upon it pleuritic symptoms as the prevailing peculiarity of the epidemic, many cases of genuine pleurisy and peripneumony, both of the common and low forms, may be found without any typhus action. In these cases, if the pa-

tient be not promptly and skilfully treated, he will not only recover more slowly than usual, but will also be more likely to be overtaken with secondary typhus fever. In most cases, a careful inquiry into the first symptoms will enable us to decide whether the diseased action commenced as a local and genuine pleurisy, or whether it was preceded by such symptoms as may fairly be ascribed to typhus fever; and it is of great importance to ascertain some certainty on these points. Since we believe that, in most instances, it will be the most judicious practice to deplete promptly, and thus prevent the inflammation from becoming fixed; by doing this we will lessen the liability to secondary typhus. A too cautious or irresolute procedure here will lead to danger on the one hand, while on the other, if we deplete freely with the typhus influences within the body, we may do irreparable mischief.

It has been remarked by doctor Armstrong, that in cases of typhus, attended with pectoral symptoms, there is an especial tendency to delirium. Whether this be more particularly the case in typhus diseases, we will not undertake positively to say, but every one must be aware of the remarkable consent of action between diseases of the viscera and the brain. But as it regards the opinion of our author on this point, we will not presume to doubt its truth, but still we have reason to believe it only occurs, as an occasional peculiarity, in certain epidemics, and we believe this view of the case will agree with doctor Armstrong's own later observations, as we think is shown in his remarks upon intermittent and remittent typhus, in the appendix to his work. Under our own observation, we have not seen a more remarkable consent of diseased action than between violent cystic and peritoneal inflammation, and disease of the brain: we do not mean inflammation of the brain, but a destructive or dangerous irritation. We believe, then, that the observation of our author, just alluded to, applies to some peculiar epidemics, we do not, therefore, agree in the supposition, that in the pectoral affections, accompanying typhus fever, the disturbance of the brain is principally owing to interruptions of the venous circulation in the head. We are aware that doctor Armstrong, ascribes a considerable share of this disturbance, to nervous arrangement. This, however, is not a matter of much practical importance, since we know that in all forms and grades, in most typhus epidemics, diseased action of the brain is particularly dangerous.

We cannot conclude this part of our subject, without remarking, that we believe, that there is no point connected with ty-



phus, which has been less understood, than subacute inflammation, and we think this must be familiar with all experienced observers. For much valuable information on this part of our subject, we refer the reader to the several French writers, who have taken the lead in this important question. Bichat, Broussais, and others, may be consulted, nor have some of our own writers, and of Britain, neglected this subject. We may remark that this form of inflammation, is always more or less obscure, because its course being tardy, and symptoms less remarkable, than in other forms, these affections do not excite attention oftentimes, until they have made some progress. By observation, we know, that this form of inflammation is reached with considerable difficulty, wherever seated, and its very nature is to approach the chronic form of disease. It does not, generally, require that prompt treatment, necessary for more ordinary inflammation, nor will the most free and prompt treatment, arrest it promptly, but on the contrary, if carried too far, will only serve to reduce the patient, and render the case more obstinate. It is in this form of inflammation, that we obtain such decided effects from free topical bleeding; but we do not agree with Broussais and others, in believing that this very mild plan of treatment, considered as a whole, will suit most diseases of this climate, not even typhus, when it assumes an inflammatory cast.

#### *Inflammation of the Stomach and Bowels.*

The writings of doctor Sydenham, and several English authorities, leave us no room to doubt of the fact of dysenteric symptoms, sometimes attending typhus fever; and, this being the case, we are prepared to adopt the views of Broussais, and others, respecting the peculiarities of inflammation, of the several lining tissues. Later observation shows, that the stomach and bowels are subject to both the acute and subacute forms of inflammation, and as the latter is obscure, and often concealed, in other situations, we can expect nothing less in affections of the tubular tissues. But here, as in other cases of inflammation, attending typhus fever, we are to look for the symptoms which characterize inflammation, from other causes. If there be inflammation of the serous membranes, we shall have an effusion of lymph, acute pain, tense small pulse, &c. If acute inflammation be seated in the mucous tissues, we shall have mucous bloody stools, pains, flatulence, &c. If in the stomach, there will be much burning, nausea, pain, and often vomiting. But these affections, with their manifold peculiarities, are not to be

studied in a review of typhus fever. The pathology of these highly important parts, (the stomach, and intestines,) is so interesting, as to require the most minute investigation, for which we refer the reader to the several works written on this subject.

In examining patients on this part of our subject, we must bear in mind, that it is important to ascertain the state of the sensorium. We expect, as an almost invariable attendant, that in this form of inflammation, there will be some pain, or soreness, upon pressure being made, but if the sensorium is much affected, we may be led into mistakes, and overlook inflammation of a dangerous kind, concealed for want of a more correct state of apprehension on the part of the patient.

We believe with doctor Armstrong, that inflammation, and especially of the subacute kind, in the intestines, is often lost sight of by physicians, and patients stimulated into great danger, or total ruin. This was well known, as a practical truth, by Sydenham and others, long since. But if the reader of doctor Armstrong, on inflammation, be not careful, he will be led astray. We have certainly seen typhus epidemics of warm seasons, almost wholly free from inflammation of any kind, in any part. Simple typhus fever, with general excitement, of the circulating system, often runs its course without any well marked inflammation. These, having no inflammatory stage at all, it seems as if the remote cause is left free to exert its influence, and in this way often suddenly prostrates the system below a state of reaction—in such circumstances, stimulants and tonics are often absolutely essential, from the beginning of the illness. But we cannot be too cautious in deciding on such practice, lest we overlook subacute inflammation of the first passages. This kind of inflammation, we believe, is most difficult to detect, and an error in its treatment may be very serious.

In concluding our remarks, upon the inflammatory condition of typhus fever, we wish to be understood, as viewing inflammation, at all times, as a sort of parasite, since it is not an essential part of the fever. It can only exist as a part of the stage of pyrexia, whether the inflammation be general or topical. Thus we see in simple typhus, a stage of excitement, as the effect of some remote cause. While this excitement exists, some viscus loses its equipoise, and takes on topical excitement or inflammation. This local affection will react upon the system, and we have the general excitement increased. In such circumstances, we are to use the lancet with more freedom. We are, however, by no means, to suppose, that these are cases of typhus fever, which have been inflammatory in their whole course; such a

thing, we believe, seldom, and perhaps never occurs. The stage of inflammation is the stage of excitement, and we are to view all cases of typhus, which run their course, as having a stage of apyrexia, a stage of pyrexia, and a secondary stage of apyrexia. There may be exceptions to this opinion, but this is the prevailing nature of the disease.

We have adopted the opinion, that the stage of excitement or inflammation is the stage of pyrexia, and in most cases, when the inflammation shall have subsided, there will be a state of prostration. Doctor Armstrong speaks of a stage of prostration, which he terms a collapse, which follows the stage of excitement, in simple typhus, but he treats of inflammatory typhus, as though it were another disease. Where this fever runs its course, we are to expect, as a general rule, that a state of exhaustion will follow, whether we have inflammation or a mere state of general excitement. It would be extremely dangerous to lose sight of the fact, that after we have subdued inflammatory action in typhus, that its nature is that of low action, and that the fever is shaped in its whole course, by an exhausting influence in the remote cause. We must, therefore, mostly exchange our depletory measures for mild stimulants of the diffusible kind. This treatment is to be adopted under circumstances which would render such treatment very improper, in the protracted or last stage of other fevers, which in their course are more purely inflammatory than typhus.

### *Congestive Typhus Fever.*

The first thought which suggested itself upon closing the chapter of doctor Armstrong upon congestive typhus fever, was this—in what does the state of congestion differ from that state of the system which has been called a trance, or that state of prostration which usually attends severe concussions of the brain? In these cases, we have extreme coldness of the extremities, and of the body generally, with much inequality of excitement; also insensibility, and stupor. In all these cases, there is almost a total suspension of circulation, some times no pulse to be felt. The same remarks apply to violent cases of the cold stage in intermittents. In these several cases, there is a retirement of the blood, and yet we have none of those dangers, generally speaking, which are known to attend congestive cases of typhus fever. It must however, be recollected, that agues terminate sometimes fatally, in the cold stage. We will not presume to decide in what these differences consist, but wish briefly

to remark, that it is obvious, that there is a difference; and we believe that difference arises from the circumstance of the interruption in the circulation in typhus, being the result of a more morbid disturbance of a particular kind; while in more ordinary cases, the disturbance is a more simple interruption. In circumstances of this kind, as is the case with all the material phenomena attending typhus fever, the peculiarities present, are the result of some modifying properties in the specific remote cause.

We think it pretty certain, whether we judge by the writings of doctor Armstrong or our own experience, that congestive typhus fever is a rare form of this disease. And we think our author is entitled to more credit for the conclusions which he has drawn from his dissections, than for having added materially to the symptomatology, by which, it is usually attended. If we closely examine his descriptions, we shall find the principal difference consisting more of a change of terms, than of new ideas. Let us examine some of his descriptions of cases, and of the disease generally.

In his first case, we have these symptoms: "he was suddenly attacked with vertigo, chilliness, sickness, and extreme weakness of the lower extremities, strangely confused in his head and intellect; staggered—talked like one intoxicated—gradually fell into a profound coma, in which he lay without motion, the face pale, and somewhat livid, the breathing deep and impeded, the pulse small, frequent, and irregular; the tongue white, and covered with a slimy saliva; the skin dingy, and partially damp; the heat of which, felt nearly natural over the breast and belly, but the extremities were cold."—"After some time his hands became tremulous, his tongue fouler, and there were a few dark petechiæ scattered over the trunk and arms"—"he died in a "stupor, slightly convulsed, forty hours after the attack."

We would ask the reader, what we can discover in this case different from what we frequently see in other forms of typhus, except the greater violence, and consequently more speedy termination. No dissections having been made in this case, nothing positive can be said as to its true nature.

Another patient "became pale and languid; and, finally with vertigo, and dimness of sight, deep, stunning pain of the head, confusion of the mind, sense of stricture in the chest, and oppression of the precordia, the countenance had a vacant and intoxicated expression; the tongue was white in the middle, smooth and moist; no material augmentation of the temperature existed; the skin was dry on the trunk and damp on the forehead and ex-

tremities; the pulse underwent little change, except that it was a little more frequent, and less resisting than natural. The patient seemed restless for some hours, but like one yielding to fatigue or to inebriety, he sank into an appearance of imperfect sleep, attended with slight startings of the tendons, and heavy respiration." The bowels were evacuated of a great quantity of dark feces and bile—"there existed obvious disorder of the sensorium, evinced by a stupid fatuitous stare, a slow drawling mode of speaking, and much intellectual confusion, petechiæ came out on different parts of the body, and the tongue grew foul and brown, the breathing laborious, the skin rather greasy, as well as cool, and the pulse considerably weaker and more rapid."—"On the third morning, immediately after a dark liquid stool, a general shivering supervened like the cold fit of an intermittent, and life was soon terminated by successive attacks of strong convulsions."

We would ask here again, is there a single phenomenon in this detail, except greater force in the symptoms, and a proportional duration other than those common to typhus fever; yet we are bound to believe this to have been a case of congestive typhus, as the dissection clearly proves the fact.

We are told of a third case—this patient went to bed somewhat indisposed, "he awoke with a rending pain in his temples, peculiar heaviness, noise and swimming in the head, some indistinctness of the mind, involuntary sighing, and sensations of weight and distress at the pit of the stomach. The countenance soon acquired a look of extreme agitation, the skin was dry on the trunk and damp on the extremities, the centre of the tongue white but moist, and evidences of irregular excitement gradually developed themselves; the pulse being small and hurried, the heat sharp and contracted about the precordia, but lower than natural in the wrists, ankles, and forehead and lobes of the ears"—"early the next morning delirium occurred, attended by spasmodic twitchings of the face, small rapid pulse, and a bloated countenance. The excitement still remained unequal, the surface being hot in some places, while it was cold in others, and the ravings continued without intermission until the next night, when he grew quieter. After having been sometime in an apparent stupor, occasionally broken by sudden startings, and shrieks, he was seized with strong convulsions and died soon afterwards." Dissection proved this to have been a case of congestive typhus. There is nothing new or very remarkable in all these symptoms, except the greater inequality of the excitement of the skin. And, if we except the greater urgency

of the symptoms, this unequal excitement of the skin, seems to us, to be the only sign not present in almost every case of severe typhus fever; besides, this unequal superficial excitement is often much more remarkable in malignant forms of fever, both in yellow fever and in typhus.

We think with doctor Potter, "that if there be any part of doctor Armstrong's work which is more particularly deserving of attention, it is the admirable section on congestive forms of typhus." But, nevertheless, we object decidedly, at the attempt which he has made at discriminating this form by a labored detail of symptoms. The language is neatly and ingeniously varied, but we find, upon a careful examination, that the symptoms are such as characterize typhus in all its forms, differing only in their greater force and shorter duration. And we deem it a matter of vast importance, to separate that which really does characterize congestive, so far as practicable, from that which serves to designate the whole class of typhus forms of disease.

The peculiarities of the congestive form of typhus consists, so far as we can discern, in the greater violence of those symptoms which characterize typhus fever generally, and it is to this circumstance, almost exclusively, that we look for data on which to found our diagnosis and prognosis. But, notwithstanding the fact, that the congestive form presents the usual symptoms of typhus, yet we must not lose sight of the fact, that, in strict language, there is no such thing as congestive typhus, any more than there is inflammatory typhus; both these conditions are alike parasitic upon genuine typhus fever. Congestion, of course, we believe to be an accidental supervention—and among the reasons for such an opinion, we offer the following. Typhus fever has no part of its nature more clearly marked than that of its being a protracted form of fever, more so than any other, except hectic. Now, if we admit this fact, how shall we also admit that this disease, which, according to its true character, extends its course through a period of several weeks, may, nevertheless, prove fatal on the second or third day. Our answer is this—The malaria of typhus we have already said, makes its principal inroad upon the brain or sensorium. The sensorial disturbance thence arising, may be directed, more particularly, to some one tissue; this unequal excitement may relate to some viscus, some vascular, or membranous structure. If it shall happen that the morbid force shall be thrown principally upon the venous tissues, or more especially on the veins of some one or more important viscera, we shall have a state of congestion of these vessels or viscera. But as typhus is, in its nature, an

idiopathic disease, this venous disturbance being without the range of regular typhus action must be viewed in the light of an anomalous case. Thus typhus has a remote cause, which exerts an exhausting influence over the living body; some accidental exciting cause, such as vicissitudes of weather, &c. give rise to an inflammation, which supervenes upon the general typhus action, and the inflammation becomes a part of the stage of excitement. So in cases of congestive typhus, if the nature of malaria is to produce general disease, some accidental circumstance leads to torpor in the veins. Then, as reaction can only take place where the veins perform their associate action with the arteries, it will follow, that if by some sensorial disturbance, the veins cannot perform their office, speedy destruction must take place; since, instead of a state of excitement, which seems to be the natural result, the febrile poison once introduced into the body, we shall have torpidity of the veins, which counteracts this salutary tendency in the arterial systems, viz. reaction. On the other hand, if the fomes extends its influence on the body in the usual way, each tissue will be disturbed to a certain extent, each one performs its portion, though somewhat lamely—and hence it is, that this disease becomes extended in its course. But wherever the morbid force is seated in some one important part or tissue, so much the more injury must that part or tissue suffer.

We must not overlook the fact, that the state of venous congestion is not peculiar to typhus fever; on the contrary, we agree fully with doctors Rush, Potter, and Armstrong, that this condition exists in other kinds of fever. Some remarkable cases of this form of fever occurred in the yellow fever, which were termed by doctor Rush cold cases. This form of fever was recognized, and its nature well understood by doctor Sydenham.

Let us now turn our attention to the symptoms which have been noticed by doctor Armstrong, as peculiar to congestive typhus. Cases "of congestive typhus, are generally sudden, and marked by many remarkable symptoms—an overwhelming lassitude, feebleness of the lower limbs, deep pain, giddiness, or sense of weight in the encephalon, a dingy palidness of the face, anxious breathing, damp, relaxed, or dry withered skin, and those peculiar conditions of the temperature, which have been noticed above. The pulse is low, and struggling, and variable; the stomach irritable; frequently there is from the first, an inability to hold up the head, and the mind is more often affected with dullness of apprehension, or confusion, than delirium. The whole appearance of the sick impresses the attentive practi-

tioner with the idea, that the system in general, and the brain in particular, are oppressed by some extraordinary load. Both the manner and look of the patient, undergo great and early alterations; sometimes they slowly drawl out their words, or utter them in a hasty, and yet imperfect manner, like people who slightly stammer when embarrassed. They not unfrequently seem as if stunned by a blow, half drunk, or lost in reverie, and sometimes have the bewildered aspect of persons, under the first shock of an overwhelming misfortune. The eye is occasionally glassy and vacant, without redness, but at other times it is heavy, watery, and streaked with blood, as if from intoxication, or want of sleep. At the commencement, the pulse is less altered as to frequency, than might reasonably be expected; yet, in general, it becomes very rapid towards the close—the tongue is usually little altered in the first stage, but in the last, it is frequently rough, foul, and brown; the bowels are mostly very torpid in the beginning, and the stools procured dark and scanty, whereas, in the advanced stage, the bowels are generally loose, and the stools copious, and involuntary. Eructations are not uncommon at all times, and the epigastric region is often much inflated. On account of the general torpor, the secretions are diminished, or suppressed; and, as justly remarked by doctor Robert Jackson, the skin is often in that peculiar state, that if blisters are applied, they either do not act at all, or so defectively, as to leave an appearance as if the part had been slightly seared by a heated iron. Petechiæ, in general, appear earlier in this, than other varieties of typhus, and in the last stage, there are sometimes gangrenous spots on the extremities; oozings from the mouth and nostrils, and hemorrhage from the bowels."

Our author continues his long catalogue of symptoms still further, but we deem it unnecessary to pursue him, in what we consider an unprofitable detail of symptoms, so variant, as never to bear much resemblance, if taken as a whole in any two cases. There is not in all this array of signs, one single symptom, nor the whole, or any part, taken together, which will serve to distinguish this form of typhus from a severe case of malignant yellow fever, of some seasons. And we may sum up all in one word—we only know congestive typhus by these symptoms, when typhus fever exists as an epidemic. And we cannot more satisfactorily express our opinion of this form of typhus, than in the words of doctor Armstrong, when he thus concludes:—"All the forms of this variety of fever, may be recognized by the depressed state of the heart and circulation, the uneasi-



ness in the head, the anxiety of the precordia, the peculiar condition of the temperature and skin, the total want of excitement, or its partial and unequal developement; the suspended or vitiated secretions, and the local load and general oppression."

We think the reader must have observed in the foregoing quotation of congestive typhus, in general, that there are some symptoms introduced, which did not exist in any of the cases reported by doctor Armstrong. It may be remarked, that there were no hemorrhages nor gangrenous spots. Upon the whole, it is clear to us, that our author has confounded cases of malignant typhus with the congestive. We believe these to be very different states of typhus, and we think it only necessary to compare the cases reported by our author, with those reported by several American physicians to the eastward, as Miners, &c. to see that these are different forms of disease. Indeed, we wish no better line of separation, between the forms of the congestive and malignant typhus, than that drawn by doctor Armstrong, unintentionally. Look at his extensive catalogue of symptoms, which characterize congestive typhus, then at his cases, and we find so much difference, as to draw the conclusion, that he has confounded different forms.

We have, in a former part of this essay, stated that we believe typhus fever to be the result of a specific cause, but that cause, though in general possessed of a sufficient sameness, to produce typhus action, still so much modified by changes of seasons, and years, and terms of years; and also modified by location; and peculiarities as to temperature and the like, as to occasion some peculiarities in the phenomena attending each epidemic. We have also adverted to the fact, that many of our medicinal articles have special influence on particular viscera. This well known fact, that certain articles act upon the bowels, others on the kidneys, &c. affords us an easy and rational explanation for the varieties, which we see in different typhus epidemics, and in the different forms of this fever. Nothing, we think, is more certain, than the fact that typhus mostly primarily affects the sensorium, yet in cold seasons, we may have inflammatory symptoms; in the warm seasons, we may have superadded, bilious symptoms. Now, if we know that certain medicinal agents, have this manifest influence on certain tissues, we can have no difficulty in admitting, that circumstances connected with typhus fever, will lead to disturbances of this or that viscus, or tissue. Hence it is, that we have in one epidemic, pneumonic symptoms, in another, bilious; again, intestinal derangement, or some other peculiar proclivity to this or that viscus, or tissue—

among the most remarkable of these particular tendencies to certain parts in typhus action, is that, we believe, of the veins. The various phenomena attending this disease, leave little room to doubt of the fact, that in common typhus, the first and principal consequence of the disturbance which takes place in the sensorial organs, is impairment in the venous circulation; but by a law of the living body, in most cases, some degree of pyrexia occurs, and the venous congestion is removed. But where the poison is so overwhelming in its force, or an inaptness or indisposition exists in the system, to taking on the necessary excitement, we shall have this venous congestion more and more developed, together with all the appalling phenomena, attendant upon the morbid stagnation in the veins.

It is our opinion, that congestive typhus, like the inflammatory, is but one stage of typhus fever, and the former stands in some degree, at opposite points with the inflammatory—the former being a state of apyrexia; and the latter a state of pyrexia. This we take to be one of the fundamental errors of doctor Armstrong; that is, considering the congestive, and inflammatory states as being different diseases from common or simple typhus.

Let us suppose, that the fomes of typhus fever has been introduced into the system—the sensorium being disturbed, we have, as a first consequence, more or less venous congestion. If arterial excitement succeeds in time, the congestion is removed, and we have simple typhus—if the reaction run high, we shall have inflammatory typhus. If no reaction takes place the congestion increases, and we have what may be called a confirmed congestive typhus. Is it not obvious then, that simple typhus has three well marked stages—first, a state of apyrexia, a prominent part of which is, cerebral irritation with venous congestion—a second stage of excitement or pyrexia, consisting pretty much of increased arterial action, either general or local—a third stage of more direct exhaustion, extending alike to the sensorium, the heart and arteries, and veins.

This view of the subject may seem to throw serious obstacles in the way of the treatment, which has been found most successful in congestive typhus, especially blood letting. But it is well known, that we must abstract blood with great caution in the state of apyrexia in simple typhus, and it is perhaps equally certain, that in severe cases of the congestive form, reaction will not take place, if the lancet be not used. We think this subject admits of satisfactory explanation in this way. In more ordinary cases, the veins are slightly congested, because the force of the disease or morbid action, is more generally diffused

throughout the body. To empty the veins under such circumstances, leads to debility; because the system is not disposed to take on a state of reaction. But in congestive cases, the greater force of the morbid influence is directed to the venous system, the arterial and other tissues not being equally depressed by this morbid influence, are ready to assume the reactive process, as soon as we, by emptying the veins of their load, in some degree, equalize the excitement. The heart and arteries are then enabled to propel the blood onward, till the excitement is balanced between the venous and arterial tissues, when we shall have a state of convalescence or common febrile action.

We think doctor Armstrong has confounded congestive and malignant stages of typhus—we think so, because in his cases of the congestive, he does not mention the symptoms which characterize malignant cases, but in his description of congestive typhus in general, he points out some of the most prominent symptoms which belong to malignant typhus—these are, dark petechiæ; vibices; oozings of blood, from the mouth; bloody dark stools. Our author also lays much stress on the unequal excitement of the skin in congestive cases, and yet every writer mentions this as a prominent symptom, in malignant fevers, as well typhus as others—we do not mean to say, that this is uniformly the case, but such cases are to be seen in all malignant epidemics.

#### *Of Malignant Typhus.*

This form of typhus fever sometimes becomes epidemic, and is then one of the most deplorable of all diseases. There is reason to believe that many of those devastating plagues which overran European countries in former ages, were of this destructive form of disease. We purpose, however, confining our remarks principally to the disease, as it has appeared in this country.

It may be remarked, that in common epidemics, in which the simple typhus is the prevailing cast of the disease, we shall have some cases of the congestive, the malignant, &c. occasionally occurring. It has been supposed, if we mistake not, that typhus syncopalis prevails principally in cold seasons. The writer has seen typhus prevail as an epidemic, located within small bounds, and decidedly of a bilious cast. These cases prevailed in warm weather, and near marshy grounds. This disease set in with the usual symptoms of typhus, and in a few of the more violent cases, death took place on the fourth or fifth day—the tongue,

at first yellowish, soon became brown, and sometimes almost black—chills, coldness of the skin, extreme prostration, disposition to lie with the mouth open; respiration laborious; skin yellow; bloody discharges from the mouth and bowels—early stupor, coma, and mutterings; subsultus—evacuations, bilious and very dark. This disease prevailed at the close of a bilious constitution, during which, intermittents were common, and it was probably owing to this circumstance, that the bark was found a useful remedy in the typhus disease in its advanced stage. We have already stated, that the disease sometimes ended fatally on the fourth or fifth day; when it did not, it was seldom arrested before the end of the third to the fifth week.

It is certain, that the maltreatment which was employed in common cases of typhus in the time of Sydenham, of which he complains, sometimes rendered such cases malignant by over-stimulation. And we are here reminded of the curious fact, that although doctor Sydenham speaks of the injurious effects of stimulants in typhus, of some of the epidemics of which he treats, yet we find him on one occasion complaining that physicians were injuring their patients by too cooling a treatment, meaning an antiphlogistic plan. Physicians, in typhus fever in the same epidemic, have employed treatment directly opposite in its nature, and both were pleased often with the result.

Now, whatever may have been the result of a few cases, those physicians only could be successful, in the former crude state of pathology, who, like doctor Sydenham, by keeping a steady eye to the *juvantia* and *lædētia*, endeavoured to suit their means to their proper ends. But a more enlightened pathology enables us to see, that, in the very same case, depletion at one period might be highly beneficial, and at another detrimental, or destructive. And thus it was in the use of stimulants, while their *modus operandi* was little understood, they might, in the same case, do injury, by giving stimulants at the period when they should be withheld; and by omitting them when they were required. It being the most natural course of typhus fever to pass through three stages, it is only by attention to those stages that we can prescribe on correct premises; and, where the morbid action does not pass from one stage to another, but remains fixed to one stage only, we can only prescribe safely, by suiting our treatment to the condition present.

In speaking of congestive cases we gave as our opinion that, that form of typhus consisted of but one stage. Thus, if nature is not able to raise a reaction, which shall counteract the depressing influence of the poison, the state of congestion increases

in force, and, more and more lowers the vital energies, by continuing a state of apyrexia. If the morbid disturbance be not too great, by suitable treatment, we unlock the vessels of their congestion, and more or less of a stage of pyrexia will succeed. But if there be no such salutary tendency in the system to take on reaction, the congestion continues to increase, and terminates in death, without a state of excitement occurring at all.

In some cases the febrile poison acts with so much force, and so far disturbs the sensorium, and the venous circulation, and leads to vitiation of the blood; and, in short, begets such a morbid and deadly train of symptoms, as to have given rise to the term putrid fever, for such cases. In these cases, as in the congestive, we have but one well marked stage—a stage of apyrexia. With this view of our subject, we see no difficulty in solving the apparent mystery that, in typhus fever, as regards the treatment, we may, so to speak, blow hot and cold with the same breath. And we think the whole matter resolves itself pretty much into this. In some cases of typhus fever notwithstanding the congestion may be such as to lead to great danger, and apparent prostration, which would soon become real if suffered to continue; yet if there be a redeeming power still present; you awaken it into action, by abstracting blood; by this you empty the engorged veins; you thus invite the arterial system into play. If it shall happen, however, that instead of there being this redeeming power, the leading tendencies are to venous prostration, as well as that of the arteries; by abstracting blood you add to the general morbid tendency, and injure your patient. In such circumstances, we can only cure our patients by employing the most powerful stimuli, as was the case in the typhus syncopalis of New England, a few years since.

How then are we to decide this momentous question? We have said, in a former part of this paper, that each epidemic has its peculiarities; and the principal of these peculiarities is the particular cast in each epidemic, so that we may find, after seeing a few cases at the beginning of an epidemic, whether there be a leading tendency to simple typhus, the inflammatory, the congestive, or the malignant forms. In epidemics in which the last named form is common, we must bleed with extreme caution, if at all. But where the congestion, though violent, is not attended with malignancy, as hemorrhage, gangrene, purple spots, petechiæ, &c. we may consider the congestion to be associated with a redeeming power in the heart and arteries—under such circumstances we may expect to unlock the venous

system, by taking away a part of the obstructing blood. If we do not bleed in time, in these circumstances, we suffer any redeeming power, there may be, to sink below recovery—and we know, by experience, that there is such a reactive power existing, even in cold cases of fever, as well in typhus, as other fevers.

Believing as we do that the malignant stage of typhus is but a stage of apyrexia, and, therefore, not in reality a disease capable of assuming the open state of fever, we shall, for the present, close our remarks on the malignant form of typhus, and proceed to a brief recapitulation of the several forms, as they have been called; but, which, in reality, are but different stages, of one idiopathic fever, having three stages, into which all typhus action may be merged. Typhus fever may be called "*simple*," when it runs a regular course; having a forming stage, a stage of excitement, and a stage of exhaustion. If we have inflammatory affections they are the phenomena peculiar to a stage of pyrexia—if congestion, this is but an augmentation, or prolongation of the stage of a pyrexia—if we have symptoms of malignancy, we have also a stage of apyrexia, of still greater force, or extent—between the two last there is this difference. In more simple cases of congestion the heart and arteries are inclined to react, if we unload the veins; this done, we shall have some degree of apyrexia. But where the depression has reached the heart and arteries in considerable force, the most powerful stimulants are our only dependence.

#### *Recapitulation of Simple Typhus Fever.*

We believe this disease to be the product of the malaria of certain situations—this poison more particularly disturbs the function of the brain. Notwithstanding the certainty of its being in general an epidemic disease, yet sporadic cases of it are to be seen, as we see of other fevers, such as intermittents, and remittents, of ordinary character. These may be owing to exposure to infection, generated in some particular place, or to the patients' carrying the predisposition to the disease in his system, from the time of an epidemic to a future season—this we know is not uncommon in other forms of fever, as the writings of doctor Rush abundantly prove; and the same fact is familiar with the writer. Instances are so common that it would be useless to cite them, in which the fomes was generated on shipboard, in foul cellars, close dirty rooms, &c. In these sporadic cases, we must find out the best indications which the symptoms may afford, but most generally we have typhus fever

as an epidemic, and we soon learn its predominant cast. We have already stated, that, it is by this circumstance, only that we recognize febricular typhus—this form of typhus requires so little treatment, that we have not thought proper to extend our remarks beyond what we have said, when describing this form of typhus.

The symptoms which usually characterize the first stage of typhus, indicate a state of peculiar prostration—peculiar, because it is the product of a specific poison; and peculiar, because it is the natural tendency of the poison, in its operation on the living body, to bear it down, so that reaction shall not take place; or if it does, it is more slowly, less certainly, and less readily, than in other kinds of fevers. In this fever we have usually in its forming state, some uneasiness of the head, with languor, and prostration of strength; weariness and dejection; paleness of face; occasional sighing; mental listlessness—then come cold shiverings, or creepings; the skin becomes hot and cold alternately—loathing of food, nausea, vomiting, anxiety about the precordia; giddiness, pain in the head, and back; pulse feeble, and slightly irregular; tongue foul, and whitish. But especially, the patient is distressed by a sense of prostration; and loaded with an indescribable distress of body and mind. These are in good degree the symptoms of other fevers, but the tout ensemble will enable the experienced physician to recognize typhus. Besides, in typhus fever, there is a much greater duration usually, in the forming stage; this often continues from a period of a few hours, to two, three, or four days, before reaction takes place.

The season, the location, and such like circumstances will enable us to anticipate with tolerable certainty, at the beginning of an epidemic, whether we shall have a bilious cast of the disease, or whether there will be a predisposition to inflammation, of this or that viscus, as the lungs, intestines, &c. To these circumstances we must always look, in laying down our indications. The writer has seen several summer typhus epidemics, in this country, in all of which intermittents had preceded, or prevailed, more or less cotemperaneously, and mostly some bilious remittents also. In these seasons, we usually commenced our treatment with an emetic of calomel, and ipecac:—by this combination, we mostly obtained pretty free emesis, and catharsis. We have never seen this cast of the disease admit of free blood-letting, and seldom of any. In these summer epidemics, we have found small repeated doses of calomel, and ipecacuanha very beneficial. Tartrate of antimony has also

been of much value, given in the form of antimonial wine alone, or mixed with equal parts of nitrous ether; also, in combination with camphor. Where, in addition to these remedies, it was necessary to evacuate the bowels, castor oil was found a proper article; generally preceded by a few grains of calomel, unless the patient was using calomel pretty freely. In one season, the most decided advantages were obtained from the use of calomel, carried so far as to produce ptyalism—this was often attended with considerable difficulty; and it was found necessary to apply the mercurial ointment; also calomel to the gums; and sometimes the blisters, which were used freely, were dressed with mercurial ointment. In many cases, there were no well marked symptoms of excitement, except a good deal of heat in the skin—seldom any clear signs of topical inflammation, if we except the brain and liver. Where the prostration was not remarkable, and some tolerable degree of excitement existed, blood-letting, to moderate extent, was sometimes highly salutary, and in a very few cases, one or two repetitions were practised with advantage. When the state of pyrexia began to yield, and much prostration of strength began to succeed, the respiration became more disturbed, and there were greater evidences of sensorial disturbance, it became necessary to exhibit preparations of ammonia, sp. nitr. dulc., sulph. ether, opium, serpentaria, &c. In some protracted cases, where there was a gradual sinking at the end of the second or third week, a little sooner or later, life seemed to depend upon the use of artificial stimuli; and almost incredible quantities of wine and brandy were sometimes necessary. In some cases, a pint of each was given every twenty-four hours, for many days, with the happiest effects; and sometimes carried patients through many days of almost total insensibility, and a total want of consciousness. In these protracted cases, durable stimulants or tonics were found useful. The bark in decoction seemed to be especially proper, and in some cases, owing to a torpor of the bowels, it became necessary to prepare the decoction with equal parts of magnesia and bark—this formula was found particularly useful where there was any irritability of the stomach. Where there was evidence of unequal excitement, evinced by remissions, though mostly not very considerable, sometimes attended with deep coma, blisters were certainly eminently useful; but their effects being transient, and the disease of a protracted form, it became necessary to reapply them, as soon as they began to dry up—sometimes they were applied one, two, or three at a time, till they amounted to 10, 12, or perhaps 20, in the



course of the stage of secondary apyrexia. The warm bath was often of great advantage, especially in the stage of apyrexia. Where the magnesia, added to the bark, did not keep the bowels free, enemata were found very beneficial. In the protracted periods of the disease, there were frequent turns of extreme prostration, attended with coldness of the extremities and skin; feeble respiration, &c.—in such circumstances the free use of ammonia, with wine whey, was found eminently useful—where repetitions occurred, as was sometimes the case, once a day every second or third day, thus assuming something of the quotidian, tertian, and quartan forms of fever, opium added to the ammonia, and given a little in anticipation, was, no doubt, the means of arresting speedy death.

It was a remarkable circumstance attending these epidemics, that during the stage of apyrexia, and of pyrexia, where the latter occurred; the stomach was very irritable, and a source of considerable suffering. This affection was most readily relieved, by small doses of calomel, and cataplasms of mustard to the epigastrium, and ankles; yet, during the stage of secondary apyrexia, the stomach would receive the necessary medicines very kindly; indeed, there was seldom any difficulty from this symptom, in the protracted stage of the disease. The sensorium was too much disturbed to admit of patients taking any thing, in form of food, so much were the senses blunted, that patients were, generally, safe from officious friends, who often do much injury, by giving the sick improper articles of food. In a few cases, it required an extraordinary degree of determination of purpose, and a good share of management, to get down such medicines and drinks, as the patients required. I have seen some lie several days wholly unconscious of every thing around them; not even recognizing the hand that administered to their wants, who recovered. The epidemic to which we more particularly allude, in this last remark, occurred in the year 1799. Notwithstanding the extended form of this fever, not one died under the care of the writer, although he had many patients; and we would remark, that after a long course of experience; we have never seen such striking advantages resulting from good nursing, and the most watchful medical attentions. This fact, together with the general phenomena attending, proves this to have been an epidemic of the simple form of typhus, as its presiding cast—it had been preceded by a fatal typhus the year before, and both were preceded by several years of intermittent and remittent fever, existing as a consequence of marshy exhalations; these fevers also prevailed, though to a very

limited extent, compared to a few preceding years. We will close our remarks upon the treatment of the foregoing epidemic, with a brief notice of a fact which we deem important. The writer had a competitor in practice then older, and much more experienced than himself, and, from whom he obtained some of his most important views of the disease, and of the treatment; and, yet, it turned out that our success was far greater than his. Our practice differed in nothing but this—we employed every remedy to greater extent. This relates especially to the employment of calomel, bark, diffusible stimuli, and blisters, giving our remedies, in all critical cases, the advantage of accommodating, with all possible care, the quantity of remediate articles, to the force of the disease; and looking steadily to the varying conditions of the disease, at least morning, noon, and night; here we were largely indebted to doctor Rush.\*

The writer attended many cases of typhus fever, in the year 1819, which had the simple form as its prevailing cast. In this epidemic there was not generally any considerable excitement; and in some cases there was not any observable, excepting increased heat of the skin. The stomach was often very irritable; indeed, this was one of the most uniform and distressing symptoms; when the disease became protracted, the stomach bore the usual medicines, and cordial drinks very well. Pretty nearly the same general treatment was employed which we have described as having been so successful in the epidemic of 1799; but it was not necessary, nor, indeed, proper to carry most of the remedies to the same extent. The employment of half dram doses of calomel, is an exception to the above remark. In the epidemic now before us, we uniformly commenced, in adult male subjects, with 30 grs. of calomel, and 6 grs. of ipecac:—pretty free emesis followed its exhibition, and sometimes catharsis. This was usually succeeded the day after with a moderate dose of castor oil—sometimes the operation of the calomel was so free as a cathartic, or there was such decided evidence of prostration of strength, that it became necessary, at once, to resort to stimulants. These consisted at first, mostly, of spirits nitre, and aqua ammoniæ, together with the use of toddy. Sometimes there was considerable costiveness—this

\* The above practical remarks have reference to a typhus epidemic, which prevailed on the Ohio river, in the years 1799 and 1800, at Wheeling. That this fever was the product of the miasm of marshy grounds, there can be no doubt, since the bilious diseases, peculiar to low situations, had existed to considerable amount at Wheeling, for many years; and, as I have stated, some few cases of ordinary remittents were to be seen at the same time.

was best relieved by castor oil, or small doses of Epsom salts, and antimony. In other instances, there was diarrhoea, which yielded readily to small doses of Dover's powder, given in the evening. Many cases came under our notice, where good wine could not be procured; in such circumstances, good old whiskey was employed in the form of toddy, and answered very well. There being a lesser predominance of bilious symptoms, than in the epidemic of 1799, it was not found necessary to carry the use of calomel to the same extent, but it was given, in most cases, with a view of correcting the secretions. The bark and serpentaria were found to be valuable remedies. Stimulants were often required freely during a dry state of the tongue, mouth, and fauces, with heat of the skin. Blisters were seldom of service. In cases attended with much dryness of the skin, mouth, &c. where the prostration was not too great, antimonials combined with *sp. nitre*, or with ammonia, were useful. Blood letting was seldom necessary, but some cases required one or two small bleedings; one patient was bled three times, and had a speedy recovery. We never attempted the use of copious depletion, with a view of arresting the disease—nothing was more obvious than the fact, that the disease would become protracted to two, three, or four weeks; and sometimes longer. This epidemic was remarkable, from the circumstance of its stage of apyrexia being unusually short; the stage of pyrexia short, slight, or obscure, while the stage of secondary apyrexia became unusually protracted. This particularity was not lost sight of in the treatment. Although this was in the main, simple typhus fever, still it was a more fatal disease than simple typhus usually has been. Several deaths occurred, but still the mortality was moderate.\*

\* The disease under special notice, existed in the Baltimore Jail, where we attended more or less cases, during about eighteen months. We have remarked, that though the disease was simple typhus, in its prevailing character; yet it was rather more fatal than usual. This may fairly be ascribed to the disadvantages under which criminals, in the prison, are necessarily placed. Little or no changes of bedding could be had, and most of the patients would pass through the disease without a change of linen. There was very little choice of articles of diet, and no other cooking than such as could be obtained from some of the male prisoners.

Nothing connected with the history of typhus fever, has presented itself to my mind, so inexplicable as the fact, that after this fever had prevailed in the Jail about eighteen months, of course including all the seasons, but occasionally prevailing to greater extent than others; and especially more in the winter than summer, it suddenly disappeared, without any known reason, in the month of March, after having affected about forty persons within the Jail, during the preceding winter.

We have seen several winter epidemics of typhus character, the prevailing cast of which was the simple form, attended mostly with severe pectoral symptoms. Often the disease sat in with the usual symptoms of typhus, but invariably in a few days, pneumonic symptoms supervened. Sometimes we had pretty strong pleuritic symptoms; in other cases we had various grades of pectoral inflammation, from the genuine pleurisy, to the most unmanageable peripneumonia notha.

There being an unusual prevalence of inflammatory symptoms in this epidemic, we need not be surprised to learn that the inflammatory symptoms sometimes seemed to precede the typhus symptoms. There is reason to believe, however, that in such a season, all being more or less under the influence of the remote cause of typhus, that none would entirely escape its influence; so that in most cases, the seeming priority of the inflammatory affections, was not real; and there was in most cases this season some degree of typhus action present. The stage of apyrexia was almost always short in duration, seldom more than twenty-four hours, often not so much. Such, indeed, was the tendency to inflammatory action, that the lancet could be used without much deliberation; even, to several repetitions, but free evacuations, even to sixteen ounces of blood, often produced strongly marked debility. The application of skill in the use of this remedy was to repeat rather than take much at once; very often, however, it was not necessary to bleed at all; in these cases emetics, purgatives with calomel; and the pretty free use of antimony, answered our purposes very well. We saw a remarkable peculiarity in this epidemic, and we have seen it sometimes in epidemics, not typhus—when the fever had been improperly treated or neglected, and inflammatory symptoms became protracted, such patients would generally bear moderate bleeding very well; and, indeed, it was no less necessary at this period, than at an earlier. Among the purgatives employed, calomel, and senna and manna, in particular, seemed well suited, and also castor oil. The warm bath, except as pedeluvia, was never used, not seeming to be indicated. The common nitrous powders were found highly useful, composed of sal nitre, calomel and tartrate of antimony. Ammonia was found well suited to most cases; even in some of the pleuritic cases, it seemed to relieve expectoration, and relieved from distressing prostration and anxiety. Blisters were generally very useful, after moderate depletion. When the disease had become protracted, a strong decoction of the polygalaneka was beneficial. Wine, toddy, animal broths, and the

like, were seldom admissible; and often did much harm. This disease was less disposed, when properly treated, to assume an extended duration—where it proved fatal patients mostly died at the termination of the inflammatory symptoms. In some cases there was a slow convalescence, but in few, if any cases, could the patients be said to pass through any well marked stage of apyrexia, or collapse; yet, in all forms of the disease the cerebral disturbance was considerable—delirium, vigilance, dulness of the senses in general, mental anxiety, or sometimes deep coma—the fatality was considerable. In the state of declination or secondary apyrexia—or what was much more common, the state of convalescence, which succeeded inflammatory action, very little advantage seemed to be obtained from medicine—the lighter aperients were sometimes proper, manna and rochelle salts, each two drams, answered very well. Sometimes in slow convalescence the serpentaria, valerian, gentian, and quassia, were useful. In some of the more troublesome pectoral cases camphorated tincture of opium was found useful at night; and during the day, the decoction of Iceland moss. In some protracted cases of cough, in old persons, the aromatic electuary was found useful, and also the Indian turnip, mixed with honey, or molasses. Wine whey in small quantity was perhaps the only stimulant or cordial which proved useful, or that could in general be borne at all. This fever followed upon two epidemic seasons of dysentery, and these last were preceded by several years of very severe epidemics, of intermittent and remittent bilious fevers.\*

#### *Treatment of Inflammatory Typhus.*

Among the positions which we attempted to prove in our remarks, upon simple typhus, are these—simple typhus begins and runs its course, without fully established inflammation; and, therefore, inflammation is not its essential and inseparable companion. We believe with doctor Armstrong, that, “when this peculiar disease and inflammation are combined together, it appears only reasonable to conclude, that the latter may have been produced by cold or by any other common cause of fever.”

\* The epidemic noticed above, prevailed in Adams County, Pennsylvania, to considerable extent. An extensive scope of practice enabled the writer to see much of the disease, and to record its phenomena, and its curative means.

This author places typhus fever and inflammation in the relation of cause and effect—the fever being an idiopathic affection, and the cause of a general derangement, which predisposes to inflammation; but, nevertheless, in most instances the inflammation is occasioned by some additional exciting cause. We believe that inflammatory typhus, or rather typhus fever with inflammation, does not materially differ from other inflammations in which, this form of diseased action is concerned.

We must not, however, overlook the fact here, that typhus is the product of a remote cause which constantly exerts a debilitating effect on the body, so that we must deplete with extreme caution—always bearing in mind that if there be danger, from the inflammation of some important viscus, so, also, is there often equal, and sometimes greater, danger in reducing the system too low. To cure the inflammation, or attempt it at the risk of much increase of danger, from the fever, could not be the desire of any physician. To regulate this point is the grand desideratum in the treatment of typhus—that is to temper, so to speak, the inflammation or excitement, without unduly reducing the general system, which is always under the influence of a prostrating poison.

Whatever objections may be made to our arrangement, we feel confident, that the view which we have taken will have a salutary practical bearing—we allude here particularly, to the opinion we have given; that the state of inflammation in typhus fever, whether it be of long or shorter duration, is a state of pyrexia. With this view of the subject before us, it will appear, that if we do not move, cautiously; while we are endeavouring to cure the inflammation, we may not be curing the fever, but, on the contrary, may be making it worse. This view will enable us to sum up the whole of our treatment in a few words.

Cases of typhus fever requiring tolerably free depletion will sometimes be met with—such cases will present pretty nearly the same signs as, inflammation of the affected viscera, when affected with inflammation, from other causes. Even here, however, we must use the lancet with circumspection; depending upon small repeated bleedings, if necessary; rather than attempt to cut the disease short, by one or two copious bleedings; as may often be done, with so much advantage, in more ordinary acute inflammation. We lay it down as an invariable rule of practice, that large evacuations are improper—not excepting the more inflammatory cases, in typhus epidemics, of the inflammatory cast.

Emetics, though admissible in some few cases, must, as a general rule, be withheld during the stage of active inflammation, in typhus. But they are of great importance in the forming state of typhus, and will often materially lessen the amount of inflammation, or prevent it altogether. Antimony, in slightly nauseating doses, is a very valuable and indispensable remedy, during the stage of pyrexia, whether it be mere general excitement, or local inflammation. In using this powerful agent, in typhus fever, we must use great caution, not to carry it into the stage of secondary apyrexia. We occasionally find so much irritability of the stomach, that we cannot avail ourselves of its febrifuge properties—in such cases we shall be enabled sometimes to give the antimony in combination with the *spiritus mindereri*; also, in combination with ammonia. In most cases of gastric irritability very small doses of calomel, as one grain, or half a grain, once in an hour or two, will answer a valuable purpose, in reducing inflammatory action; while, at the same time, it serves the additional purpose of improving the secretions generally, in a greater degree than any other article. Jalap, and the neutral salts, may, also, be made conducive to this end; but these last are not often proper in typhus fever, except the inflammatory symptoms are well marked. In the malpractice among physicians, we know of no article which is so often abused as blisters; on account of local inflammation—when too early applied they often do much mischief—it is often a matter of much nicety to decide on the blistering point—we venture to recommend, that the inflammation must be considerably abated, in its force, before we apply blisters. It is in these cases in particular, in which the topical bleeding, so much extolled by the Broussaian school, is found so highly beneficial—but it is obvious here, that this remedy can only be useful or proper, in particular epidemics, or particular cases, where there is pretty well marked evidence of inflammation of the acute, or subacute kind. We should have noticed the great advantage of blistering in peripneumonia notha: here, we cannot easily be too early in their application. It has been shown in a former part of this essay, that blisters are more useful in some seasons than others.\*

With proper attention to general principles, we should be engaged in a work of supererogation, in the minute detail of the

\* It may be recollected that, it has been stated when treating of the typhus fever, which prevailed at Wheeling, in 1799, that blisters were used with much advantage; and were sometimes repeated to the number of ten, fifteen, or twenty in the course of two or three weeks.

several inflammatory affections of the viscera. The several local affections are, generally, to be treated as inflammations from other causes; for which, we must refer to the several works, upon such affections; never forgetting that typhus fever is a disease of debility.

### *Of the Congestive Typhus.*

The reader may recollect that we have given as our opinion, that doctor Armstrong has confounded the congestive form of typhus, with the malignant; and since we believe that these different states call for very different treatment we deem this an important error. It is true, that we have considered both these forms as states of apyrexia; but such is the difference notwithstanding, that, with few exceptions, these different forms require a plan of treatment diametrically opposite. We consider the state of congestion, unaccompanied, as it often is, with malignancy, a state of indirect debility, or oppression; and as this condition shall be more complete, so shall the case be more justly entitled to the name *congestive*; and in that proportion may we expect relief, from blood letting. Whereas, in the malignant form, we have with, or without, the congested state of the veins; gangrenous tendencies; vitiation of the blood; and, a total falling off the *vis vitæ*, owing to some peculiarity of habit, of the patient, or from the overwhelming influence of a more concentrated or virulent poison, having been introduced.

We, therefore, think it important to confine the term congestion, to such cases as are attended with indirect debility, and call for the lancet, or other depletory measures. We must not forget, however, that if the congestion be not removed, we shall have, often times, malignant symptoms supervening; so that we are never to be satisfied with a name—Let us look to all the circumstances of the state of congestion present, and if it has existed so long, as to raise doubts, let us see whether the debility may not have become direct; and the case verging into malignancy. In a word, we would refer malignant cases of typhus, to that form of disease which was formerly called putrid fever; but we would decidedly object to placing cases of congestive typhus, under that head.

The reader is referred to the description of the congestive form of fever, quoted from doctor Armstrong, to be found in our remarks upon congestive typhus—we close this summary with the symptoms, which more particularly, characterize this form of fever—"all the forms of this variety of fever may be



recognized, by the depressed state of the heart and circulation; the uneasiness in the head; the anxiety of the precordia; the peculiar condition of the temperature, and skin; the total want of excitement, or its partial and unequal development; the suspended, or vitiated secretions; and the local load and general oppression."

We have said that *congestion* is a stage of *apyrexia*; doctor Armstrong says, there is often "a total want of excitement:" how, then, are we to reconcile our depletion, upon which alone can we depend, in complete states of congestion, with this state of things, seeing that there is no excitement. Our answer is this—we know by experience, that there is still a redeeming power within the body—that while the veins cannot act because of their turgescence, growing out of reduced vital energy, the heart and arteries are not much prostrated, so that, remove the congestion, that these organs may have no directly opposing power, and they not only continue to act, but, they take on increased action, which has been termed reaction.

We have elsewhere given as our opinion, that it is one of the more steady traits in the character of typhus fever even, in the simple form, to beget venous congestion. It is obvious, therefore, that we believe that there are various grades of congestion; as also some uncertainty as to duration, all which calls for some modification of our remedies. In the incipient state of this form of typhus, the warm bath is a remedy of the highest importance; and will, we are confident, very often so speedily influence the sanguiferous system, as to prevent the state of congestion from becoming confirmed. Similar happy results may be expected, from a well-timed emetic—both the foregoing remedies will often be aided by cataplasms; rest; frictions; tranquility of mind; and total abstinence from solid food; as well as from all stimulants, except a little mild tea, or hot lemonade, &c. While these remedies are put into use, we should give calomel, with more or less freedom, as this or that form of the epidemic shall prevail. Antimony is not to be given with the intention of influencing the heart and arteries, but it may be given generally to advantage as an emetic. We, however, prefer, and particularly when bilious symptoms are present, half a dram of calomel, with a few grains of ipecacuanha. General bleeding is, in almost all cases, to be preferred to topical; we would not, as a first remedy, trust to local bleeding in congestive typhus; no matter to what extent—after the congestion appears clearly to be located in some important viscus, then it is, that we may resort to local bleeding with much advantage, premising, generally, suitable general bleeding.

We are to expect, as the result of the employment of the remedies just pointed out, some share of reaction; and there will be a tendency in the viscera, more particularly affected with the congestion, to take on inflammation; for this we must, of course, look out; and it will often happen, that by some well-timed evacuation, we shall unlock the vessels, and thus prepare the way for repetition of bleeding, cathartics, &c; and for their employment, to an increased extent. Should an open state of excitement or pyrexia take place, we shall now find antimony to be one of our more efficient remediate articles, together with all the usual antiphlogistic measures—never forgetting, however to keep a steady eye on the general fever, which, being typhus, is but another name, for a morbid low action. In this respect, however, there will be much difference,—some congestive cases will unavoidably end in a state of pyrexia; others will advance into the malignant form; some patients die from oppression, and of course, without a resolution of the congestive state—Some, again, being thrown into the simple form of typhus, it may run an extended course—or we may sometimes cut the disease short, by putting an immediate stop to the disease; or have a recovery after a short period of convalescence. We do not believe that blisters are ever proper during the congestive state; and in the use of sinapisms, we must take care not to apply them, at a time, when the system is about taking on a state of reaction.

In the use of depletion, we must watch with great care, that the case may not be verging to malignancy, or that the heart and arteries, may not, like the veins, be so much prostrated, that instead of reacting they may sink in their energies.

#### *Treatment of Malignant Typhus.*

We believe it is a generally received opinion that malignant typhus prevails most generally, in the winter season. The writer has never seen such a winter epidemic, but he has seen it prevailing epidemically during the summer; and, in a neighbourhood subject to bilious affections, which, indeed, were prevailing to considerable extent, at the same time.

We cannot afford the reader a better description of this form of typhus fever, than by referring him to the symptoms laid down by doctor Armstrong; and given by him as the symptoms of congestive cases. Among the circumstances leading to the malignant typhus, may be noticed the state of congestion—but it is a lamentable fact, that in some seasons typhus epidemics are pssed to take on this form, to a considerable extent. And

it is only by observing the predominancy of either, or both, that we can tell, when called to a case, to which form it belongs. In a genuine malignant typhus no depletion can ever be useful—there are seemingly objections, but these cases are but congestive, without having assumed the gangrenous action. There appears to be so general a depression, and depravity of body, speedily introduced, as to sink the *vis vitæ* below the ordinary reactive condition of the system.

Every physician of sound experience, must be aware of the intractable nature of this form of typhus—so much was this the fact, and such the mortality in the summer typhus, of which we have just spoken, that notwithstanding the most sedulous attention, to many cases, we cannot say with any certainty or confidence, whether any of the remedies employed were materially beneficial. Whenever the disease had fairly gotten within the confines of malignancy, the patients were lost, with very few exceptions. We believe calomel, as an aperient, with the mineral acids, and bark, serpentaria, and camphor, were, at least, not prejudicial. Skill was more available, in saving life, where we were called early, by preventing the arrival of the malignant state. This was often effected by the prompt exhibition of emetics; and large doses of calomel, general scruple doses, often repeated, frequently half a dram was given daily for several days—and whenever the fever could be brought to intermit, or well marked remissions brought about, the free use of bark, about two ounces given during the remission, succeeded so well, that afterwards it might be given in small quantities; or cascarrilla, and the more common bitters were used to much advantage.

It would, perhaps, be but a trespass on the time and patience of our readers, to enter into any detail of the history, and treatment of the typhus syncopalis, of New England, a few years since. We will refer our readers to the several valuable papers to be seen in our several medical journals. We shall, therefore, conclude this chapter with a few general remarks. Malignancy in typhus, is almost invariably low action. If the *vis vitæ* is not too much prostrated; stimuli, whether it be opium, diffusible, or acrid stimulants, or tonics, may over-stimulate, and, if so, the continuance of these stimulants must be more or less detrimental. We cannot believe that the cold bath is very proper, or safe, in the malignant state of typhus. Indeed, for our own part, we have never seen any typhus epidemic which seemed to indicate its employment; and, although we have occasionally witnessed its application in consultation, we were never sensible of any advantage being derived from it.

If we have not deceived ourselves, we have presented the various and varying forms, and states, &c. of typhus fever, in such an aspect as must tend, materially, to instruct those whose experience may not have enabled them to discriminate for themselves; and we feel persuaded of having thrown some few rays of light into the way of those, who, though they may have seen much of typhus fever, may never have seen the epidemics which we have seen; nor may they be misemployed in seeing this old and destructive disease, examined under somewhat of a new aspect. It remains to say a few words respecting secondary typhus.

### *Of Secondary Typhus Fever.*

We have, throughout this essay, maintained the opinion, that typhus fever is the product of a specific poison, which poison, usually termed miasm, or malaria, gives rise to a peculiar set of phenomena, which constitute a peculiar fever, having a low action, or which exerts an influence on the body, constantly tending to a prostration of the vis vitæ—therefore, typhus fever is a thing sui generis. In this circumstance, we at once recognize an essential, and irreconcilable difference, between typhus and secondary typhus.

Inattention to this circumstance has led to much confusion, and to much malpractice. Most of the error existing on this part of our subject, is ascribable to nosologists, who lost sight of the true character of genuine typhus; and classed it with diseases wholly different from it, simply because there was, in both, a state of debility. In this way, a large portion of the profession have been brought to consider all diseased action, attended with much prostration of strength, as similar in kind. Now that we see typhus, as the product of a peculiar poison, and, therefore, a fever sui generis; we could not act so unphilosophically as to believe, that the prostration succeeding ordinary fevers, can resemble that which is excited into being by a specific poison.

To point out all the peculiarities by which true typhus differs from secondary typhus, would require at least, a full recapitulation of our whole essay: this we shall not attempt, as we deem it unnecessary. Let it suffice to follow out a little further, some of the points or circumstances, in which common debility differs from true typhus action.

Patients who have suffered from ordinary fever, or persons who suffer great losses of bodily power, from great mental

anxiety, from long confinement in healthy places, from the use of too poor or scanty a diet, are seen to languish, become enfeebled, and sometimes fall into dangerous exhaustion. In such circumstances, they may be said to resemble much the state of those, who are labouring under the last stage of true typhus fever, and consequently require nearly the same treatment, as does true typhus, in the stage of secondary apyrexia, or of collapse. But even here there is mostly some difference—let us suppose a case of each before us, in which, so far as we can judge, the debility is about equal—we shall find almost invariably, that the case of true typhus will bear, and require, a greater amount of stimulation than the other. And so will the typhus patient be less benefitted than the other case, from light nutriment—it may be laid down as a pretty general fact, that typhus patients will not digest even mild food, till the sensorium becomes pretty steady in its operations. Indeed, we often find in our ordinary autumnal fevers, that patients in the state of considerable debility, will not bear stimuli or tonics; not even during their convalescence. This is, perhaps, never the case in typhus. Our limits will not enable us to do justice to this part of our subject; we shall, therefore, close, promising that we may, at a future period, treat this subject more at length.

In conclusion, we would remark, that we feel some degree of assurance, that the views we have taken are rational, and probably correct—we have endeavoured to point out, with all possible precision, the various peculiarities of the disease in view, and trust we have shown, that while typhus fever is a disease *sui generis*, that, still, it has almost no fixities in its phenomena; but, being an epidemic, it varies like the seasons which give rise to it; and calls for that attentive clinical observation which has rendered the writings of doctor Sydenham so truly valuable. We hope it will lead the younger part of the profession to more rational indications, taken in its various parts, than the works of any single author. We submit it to the profession, believing that they will look chiefly to the principles, and practical precepts; and leave out of their estimate its minor blemishes and imperfections—these may easily be corrected by those who are able to discover them.

ART. II. *Observations on Retention of Urine.* By SAMUEL ANNAN, M. D. *Extraordinary Member and Annual President of the Royal Physical Society of Edinburgh; Professor of Anatomy and Physiology, Washington Medical College of Baltimore.*

**RETENTION** of urine is a disease accompanied by so much suffering, both present and prospective, and the calls for relief are so urgent and pressing, that the physician is bound, as well from regard to his own interest as the welfare of his patient, to be intimately acquainted with all the varieties of causation and the appropriate remedies. It is a very natural supposition, that in a case presenting at least half a dozen different modes of removing the immediate cause of agony, no person, who could procure a doctor, for love or money, would be long subjected to its operation; it is, however, a lamentable truth, that examples of protracted misery, and lingering death, are by no means unfrequent; attributable, it is to be feared, in numerous instances, to the unskilful management of the practitioner.

The anatomy of the urinary organs is as complicated, as it is important and interesting; and this complexity is no doubt the reason, why comparatively few are well acquainted with its minute details. But the whole of the treatment of retention of urine, medical and surgical, should be founded upon a correct knowledge of the structure of the parts concerned; a description of some of the more important points will therefore not be misplaced.

It is presumed, that the situation, and general connexions of the urinary bladder and its appendages are familiar to all.

The urinary bladder consists of one partial and three entire coats, viz. a peritoneal, partial; a cellular, muscular, and mucous, entire. It has a fundus, pointing upwards or atlantad; a cervix, a portion of indefinite extent, behind the base of the prostate gland; the central part is called the body; and the commencement of the urethra, at the prostate gland, the mouth. There are two layers of muscular fibres; the external fibres run longitudinally from the pubis to the sacrum; the internal are mostly oblique, except around the cervix, where they are nearly circular, and becoming somewhat thicker, form what is described as the sphincter of the bladder. Mr. C. Bell informs us, "that the true sphincter has hitherto escaped notice; that it lies under the base of the prostate gland, and immediately surrounding the beginning of the urethra." When Mr. Bell says "*under* the base of the prostate," he must mean within—that



is, between the gland and the mucous coat. Now, the slightest examination of the dense, compact, resisting structure of this gland, forming a complete circle round the beginning of the urethra, will show that it is impossible that the outlet of the bladder can be closed at that point, even by a muscle greatly stronger than the muscular coat of the bladder is at any part; indeed, it would seem as if the prostate gland was placed round the urethra for the purpose of resisting the pressure of the neighbouring parts, and the natural tendency of a membranous sac to collapse; and thus at all times preserve a patulous mouth. If there was not some such arrangement for keeping open the mouth of the bladder, the muscular coat being stronger at the cervix, immediately behind the base of the prostate, the fibres also circular, and the pressure during micturition equal over the whole circumference of the bladder, there would be no possibility of discharging the urine; for as the bladder gradually enlarged, the ureters pouring into it, the stronger circular fibres of the cervix would oppose the distention more vigorously than any other part, closing the opening; and unless there was a voluntary power of relaxing this sphincter, while the other portions of the muscular coat were brought into action, which is not the fact, no portion of the coat of the bladder being a voluntary muscle, it is absolutely impossible a drop of urine could escape. The prostate gland then forms a trumpet-shaped patulous mouth to the bladder, lined by the mucous coat of that viscus; and, this is called the prostatic portion of the urethra.

From the bladder passing off at the base of the prostate, and beginning immediately to enlarge and form a sphere more or less perfect, when distended, it is evident that the circular fibres of the cervix cannot act as a sphincter. That there is no sphincter muscle at this point, is farther proved by the fact, that no difficulty is ever experienced in the introduction of the catheter, from spasm inside of the base of the gland.

The true sphincter of the bladder is anterior to the apex of the prostate; it is formed by the muscular fibres embracing the membranous part of the urethra; consisting of a portion of the levator ani, attached to the interior surface of the pubis and to the symphysis, passing downwards and backwards on each side of the urethra, to the extremity of the rectum; and of the levator or compressor urethræ, also arising from the inner surface of the symphysis pubis and *encircling* the urethra. Other fibres proceeding from the symphysis surround the membranous part of the urethra, and run backwards to the prostate gland and vesiculæ seminales.

contraction; and, diminished excretion of the skin from the cold of winter; so during the intense heat of summer, the augmented action of the cuticular surface, debilitates the mucous membrane of the intestinal tube, lessens the quantity of lubricating fluid, and constipation is the consequence. In cases of permanent stricture, the urethra is the weakest and most irritable part, and feels first the change in the state of the skin; there is additional tumefaction of the lining membrane; there is increased sensibility, which causes spasmodic action of the muscles; and retention of urine is the effect. The first indication of cure is to reduce the inflammation, and thus remove the swelling, whose tendency is to close the tube; and relax the spasm, by diminishing the irritability of the parts; by bleeding from the arm, or leeches to the perinæum, by opium, warm bath, &c. After a free bleeding, a full dose of opium, and immersion in the warm bath for an hour or two, it frequently happens that the patient is relieved before he is removed from the bath. The catheter should not be employed, so long as there is any prospect of relief from other means; it is at best an uncertain remedy; and if frequent and unsuccessful attempts are made to introduce it, the parts become more irritable, and the disease is aggravated. By a continuation of the general treatment, repeating the blood-letting if admissible, opening the bowels, using glysters of warm water with a dram of laudanum and fomentations, the obstruction may possibly be overcome; and if not, these remedies are a proper preparation for the trial of the catheter. An instrument of the smallest size, if no violence is used, may now in a majority of cases be passed. If still foiled, there is little doubt but the urethra is so much swelled, as to be entirely impervious. We have been advised to introduce a small bougie, and withdraw it while the patient makes an effort to expel the urine, with the expectation that the fluid would follow. But if any instrument can be passed into the bladder, most persons would prefer a tube, which will certainly accomplish the object. A bougie has also been pushed up to the stricture, and into it, as far as could be done without too great violence, and cold water being sprinkled on the thighs, the patient standing and endeavouring to void urine, the bougie has been slowly withdrawn, and the urine has sometimes followed. It is a doubtful remedy. All other means having failed to afford relief, it now becomes necessary to puncture the bladder.

The old operation of puncturing the bladder with a trocar and canula, through the perinæum, is now universally abandoned; and surgeons do not appear much more partial to the incision



as for lithotomy, and the introduction of the trocar through the neck of the bladder, on the left side of the prostate gland. The puncture above the pubis, and that by the rectum, are both performed; and it is doubtful which has the ascendancy in the estimation of modern surgeons. Sir Astley Cooper prefers opening the urethra behind the stricture, and informs us that he holds puncture of the bladder to be scarcely ever necessary. He gives us a case of this operation, in which "the urethra was excessively swelled behind the stricture, from the urine passing as far as its seat;" but the stricture was seated "in that portion of the urethra which was covered by the scrotum." Here the operation was simple enough; the obstruction being seated between the triangular ligament, and the apex of the prostate gland, would make a very different kind of case; no swelling of the urethra could then be discovered to guide the operator. Besides, this operation leaves the stricture untouched; and the patient must pass his urine by the artificial opening, until the stricture is cured; which has probably already been found to be no easy matter.

The editor of this journal has reported in the 7th volume of the *American Medical Recorder*, a number of cases in which a new operation was performed successfully, with the double purpose of relieving the patient from the immediate suffering and danger caused by the retention, and curing the stricture.

The patient was tied as in lithotomy; a sound passed along the urethra to the stricture; an incision made into the urethra through the perinæum upon the point of the sound; of course immediately anterior to the stricture; a small probe passed along the strictured portion and into the bladder, and then a director to serve as a guide for the knife, with which the urethra was slit open as far as the prostate gland, or even into this gland, cutting freely the triangular ligament and the sphincter muscle, so that the finger could be introduced into the bladder. A gum elastic catheter introduced through the penis drew off the urine, and the wound healing over it formed a new urethra, free from stricture. The principal difficulty in this operation is experienced in passing the probe and director; the urethra being nearly or altogether impervious, and the parts covered with blood, it is not easy to find the orifice; if the probe cannot be introduced through the stricture, by making a free division of the triangular ligament, and feeling the indurated urethra inside of it, the finger will direct the knife to cut it open so that the director can be passed into the urethra inside of the stric-

tured part, and then into the bladder. The urethra being destroyed as a tube, it is a little troublesome to turn the point of the gum elastic catheter under the arch of the pubis, and find the opening of the bladder.

This operation although somewhat more difficult to perform, is unquestionably preferable to all other methods of opening the bladder in cases of retention of urine from permanent stricture, requiring the knife or trocar. It is free from all the objections to puncturing above the pubis, or through the rectum; it has peculiar advantages; and certainly ought to supersede those operations.

*An exceedingly interesting case of retention of urine, caused by stricture of long standing, is reported in the 19th No. of the Medico Chirurgical Review; for October, 1828; a few remarks upon which will not be unprofitable.*

The patient "Captain E.— of the royal Navy, aged upwards of sixty years, had been several years severely afflicted with stricture; unsuccessful attempts had repeatedly been made by some of the ablest surgeons to pass bougies; and at length he was obliged to wear a bottle into which the urine distilled *guttatim*. In July 1828, he came to London, and put himself under the care of a gentleman celebrated for the management of stricture, who attempted several times to pass a bougie, but never could succeed. He used no violence. In the course of these attempts at introduction, some feverish symptoms appeared, and the use of the bougie was deferred. The fever increased—hiccough, vomiting, sunken countenance, &c. &c. super-vened. Dr. Johnson was called in; a hard round tumour was felt in the left hypogastrium, exceedingly tender to the touch, and rising nearly to a level with the umbilicus. As the total quantity of urine discharged in the course of the day, was reported by the medical gentleman in attendance to be three pints or more, Dr. J. could not determine the precise nature of the tumour in the left hypogastrium, but recommended leeches and fomentations to the part—emollient injections to be thrown up—and effervescing draughts with laudanum to be given by the mouth. Two days after this it was decided, that the bladder was greatly distended with urine. Fomentations, enemata, nitrous ether and colchicum with opium re-established the discharge of urine. But the hiccough and vomiting returned; and on the sixth day after doctor J. was called in he expired."

"Dissection showed the bladder thickened," as is usual in these cases—"the mucous coat ulcerated. The prostate gland was not enlarged, and the first stricture was found to be situated

about an inch exterior to the caput gallinaginis, the bladder and penis having been removed from their situation. This stricture was nearly impervious, and the immediate surrounding structure was condensed into a state approaching to cartilage. About an inch from this was situated the second, (counting from the neck of the bladder) so impervious that the point of a probe could not penetrate it, and any vestige of the canal could not in fact be distinctly traced. Parallel with these two strictures, and extending beyond and before them, were found three large pouches or sacs filled with pus and coagulable lymph, with openings into the urethra anterior to the strictures, and evidently the results of three false passages made at some remote period."

In the first place as to the management of the above case, viewed simply as a case of stricture, up to the appearance of the symptoms of fever; that all the surgeons in regular succession should have pertinaciously persisted in the use of bougies, is passing strange. The British surgeons surely need not to be informed that there are cases of stricture, not small in number either, in which a cure by dilatation with bougies or sounds, or, by the caustic bougies, is absolutely impossible. The above was such a case; dissection showed the canal obliterated, and the surrounding structure converted into cartilage. It is true this could not be ascertained certainly before dissection; but it ought to have been strongly suspected from the fact of several eminent surgeons having been unable to afford any relief by the employment of bougies. This looks as if our transatlantic brethren are unacquainted with any other method of treating these deplorable cases; and it cannot be otherwise than that dozens of individuals are now going about amongst them, wearing bottles, into which the urine distills *guttatim*; waiting as patiently as they can under this accumulated suffering, till complete retention and death give them a joyful release. It would appear as if it were really the fact, that such cases are considered irremediable; and that the boring with bougies is merely "pour passer le temps." I remember witnessing in London, a few years ago, a case very similar to the foregoing, with a corresponding termination. After the failure of the ordinary remedies for retention, including the catheter, an attempt was made to empty the bladder by an incision with a scalpel in the centre of the perineum, and then pushing a common bleeding lancet in the direction of the apex of the prostate gland, as nearly as could be guessed. No fluid followed its withdrawal. Dissection showed that it had passed through the gland into the

urethra, immediately anterior to the caput gallinaginis; but the opening had closed as soon as the instrument was removed. The bladder was subsequently punctured above the pubis; the man however died in two or three days.

If patients should consider the operation with the knife too severe (which will not often occur, so desirous are they to be freed from their misery) as long as the bottle and the *guttatim* keep death at a respectful distance, it could not be objected to in such a state of things as was presented in doctor J's. case when he was called in. It was then very apparent from the whole history of the case and the existing symptoms, that the man's life was threatened by retention of urine from stricture; and it was equally clear, that relieving the bladder was the only thing which could save him; and yet doctor J. and his associate, during six days, treated him as if it was a case of mild fever with slight abdominal inflammation, and some deficiency of the action of the kidneys. The tumour of the left hypogastrium was considered of doubtful character; because three pints or more of urine were passed in the twenty four hours. Every tyro knows that the bladder may be suffering exceedingly from distention, and large quantities of urine dribble away. On the third day, when they did make up their minds that the bladder was greatly distended with urine, instead of drawing off the water, they prescribed fomentations, enemata, nitrous ether, nitre and colchicum with opium, and were highly gratified when the "discharge of urine was re-established."

It is not so certain that any plan would have saved the unfortunate captain, when doctor J. first saw him; but it was a case clearly demanding doctor Jameson's operation. It is true he was considerably debilitated, and aged; the operation however, is not one that requires a vast amount of vis vitæ to render it endurable. By laying open the strictured part of the urethra, the bladder would have been relieved; accumulation for the time to come prevented, and the ulcerated mucous membrane in all probability would have healed; a new urethra would have been formed in the place of the diseased portion; and the three sacs, being emptied of their contents, would have filled up; provided the constitution had possessed sufficient power to react healthfully, on the sources of irritation being removed. At all events this would have given the patient a chance, and the only one; whereas prescribing for the fever and inflammation while the cause was suffered to remain in full operation with undiminished power, was little better than mockery.

*Retention of Urine, from spasm, forming what is denomina-*

*ted spasmodic stricture, is of less frequent occurrence.* This variety is generally produced by inflammation of the bladder, more or less acute, and varying in extent; the cervix and beginning of the urethra said to be most frequently affected. The spasm is in the sphincter muscle, surrounding the urethra. Inflammation may be caused by calculus; by stimulating diuretic medicines, especially cantharides. The dysuria from blisters is a variety of this irritation and accompanying spasm. The acrid urine passing into the bladder from the ureters, irritates, and excites spasmodic action of the bladder to expel; while at the same time the sphincter muscle is stimulated into irregular action independent of volition and closes the tube; hence the straining. Inflammation and abscess about the perinæum and anus, may cause spasmodic stricture; very bad piles, by irritating the insertion of the levator ani muscle into the rectum, and causing it to contract spasmodically, will produce this form of the disease. Mental emotion occasionally produces spasmodic stricture and retention of urine.

In all the varieties of this form of the disease, the first indication is to allay the spasm; as a general rule, the catheter is inadmissible until means have been used to relax the sphincter muscle; the irritation of the catheter increases the spastic rigidity, and in many cases the urethra will give way and false passages be formed, before the sphincter will yield. Even in the employment of the appropriate remedies, it is strongly suspected, that many practitioners have no very clear or precise views of the nature of the affection. They bleed, suspecting it to be inflammation of the bladder; and if that happens to be the cause, it is correct, so far as the removal of inflammation is the object, under ordinary circumstances; but they do not reflect, that the retained urine is aggravating all the symptoms, by its acrimony irritating the sensible surface, while at the same time it distends the inflamed bladder; that little can be done to mitigate the inflammation so long as the urine remains; and that bleeding can be so directed as to overcome the spasm, the cause of the obstruction. If bled in the erect posture to syncope, both indications would be fulfilled. So in the employment of opium, instead of giving ten drops of laudanum with ten of tinct. muriat. ferri, every half hour as is some times done, two or three grains of opium should be given at once, in order to produce its full anti-spasmodic effect. It should also be remembered, that the warm bath never has accomplished all it is capable of performing as an anti-spasmodic, until there is a ten-



dency to syncope. The tinct. muriat. ferri does no good unless it causes nausea.

*A case of retention from spasmodic stricture brought on by mental agitation, in which several of the proper remedies were used in such a manner as to render them entirely inert, is recorded in the Journal des Progres des Sciences Medicales.*

That it was a pure case of retention from spasm was evident. It came on suddenly after mental agitation, in a person whose urethra was known to be unobstructed. The bladder extended to the umbilicus; the hypogastrium was very tender to the touch; and the patient was nearly delirious. The first remedy tried was the catheter; it could not be introduced; the sphincter refused admission; a considerable hemorrhage followed the attempt. Bleeding to twenty ounces was prescribed; thirty leeches to the perinæum; emollient fomentations; enemata; the warm bath, &c. Unsuccessful attempts were again made to introduce the catheter; as also cat-gut bougies, and silver sounds. The obstruction appeared to be situated about six inches from the orifice of the urethra. At length, in the evening, a grain of opium was given, and during the night the patient rose and made water in a full stream.

The first attempt to introduce the catheter was clearly bad practice. It increased the spasmodic action; and the advantages, of the kind of local blood-letting which succeeded, arising from laceration of the urethral membrane and its vessels, are problematical. If the patient had been bled to syncope, whether ten or forty ounces were required, in all probability he would have been relieved immediately. Blood-letting in the manner in which it was practised, as also the leeches, was useless; inasmuch as the pain of the hypogastrium did not proceed from inflammation; but simply from distention of the bladder. Remove the cause, and the effect ceases. Looking at the exciting cause of the spasm, mental emotion, it is questionable whether blood-letting in any shape was indicated. Two or three grains of opium in all likelihood would have relieved him, in conjunction with the warm bath. The opium however was deferred till he urethra had been well bored with catheters, cat-gut bougies, and silver sounds; and then administered in an insufficient dose to insure prompt relief.

In all cases of retention from spasmodic stricture, if bleeding should be deemed necessary, it will be advisable to introduce the catheter before the patient recovers from the swoon; because voluntary efforts in the irritable state of the parts are at best uncertain; and there is no security that the sphincter muscle

will obey the will and continue quiescent, while the abdominal muscles empty the bladder. If blood-letting, opium, the warm bath, &c. separately or combined, should fail, the catheter should be tried immediately after removing the patient from the bath. In the introduction of this instrument, the horizontal posture, as tending to relax the muscular system in the greatest degree, is to be preferred; it is also of paramount importance to recollect the seat and cause of the obstruction; it is the sphincter muscle encircling the urethra inside of the arch of the pubis. The acceleratores urinae do not offer any obstacle of moment; they embrace the urethra obliquely; and having almost entirely a membranous origin and insertion, and the portion of the canal which they enclose not being so sensible, they are comparatively easily overcome. These muscles run along the urethra outside of the symphysis pubis, and by placing the finger on the perinaeum, behind the scrotum they can be felt. The catheter will pass them with little or no difficulty, provided there is no permanent stricture.

Some surgeons warn us of the danger of the point of the instrument being caught, in what they call the sinus of the bulb, outside of the triangular ligament, which they describe as a kind of natural pouch formed by one of the dilatations of the tube; if the catheter appears to be arrested at this place, they advise us to withdraw it, and elevate the point. I have already said that I do not believe there is any enlargement of the canal at the bulb; but that it must rather be contracted by the acceleratores urinae muscles; this, however, is not the source of the difficulty which occurs here; the obstruction proceeds from the urethra passing through the triangular ligament, by which it is immoveably attached to the arch of the pubis; and the part of the urethra outside of the arch admitting of free motion in every direction, but more especially backwards towards the rectum; and the point of the catheter in consequence taking that course, the handle being still parallel with the abdomen, it strikes the triangular ligament behind the opening, and if force is used the lining membrane gives way; it slips behind the ligament and passes into the cellular membrane surrounding the rectum; hence the necessity for elevating the point, by bringing the opposite extremity down from the abdomen towards the thighs. In doing this, care must be taken that the point of the instrument is not directed too much forward, and made to strike the arch of the pubis, or that portion of the ligament which is in front of the opening. The extremity of the catheter having struck this orifice, passes through the ligament under the arch of the

pubis, and arrives at the spot where the sentinel of the bladder is posted, the sphincter muscle, now in a very surly humour, and refusing either ingress or egress. The difficulty of passing this spot is in proportion to the sensibility of the membrane and the irritability of the muscles. If we consider that it is a muscle we have to deal with, it must at once occur to us, that violent efforts are to be reprobated; the membrane will tear before the muscle will yield to violence. Uniform, gentle, and gradually increased pressure, persisted in for some time, affords the surest prospect of overcoming the spasm; on the same principle as we subdue the resistance of other muscles, by fatiguing them. As a general rule it is safest to press the point of the catheter, at this stage of the operation, forwards, towards the crest of the pubis, by depressing the handle between the thighs; the bladder lying immediately within the symphysis, it can scarcely go astray. The spasmodic opposition of the sphincter conquered, the instrument passes readily into the bladder, if there is no disease of the prostate gland.

The same general directions are applicable in the introduction of the catheter in cases of permanent stricture; taking into account the permanent contraction of the canal, requiring a small instrument; and recollecting the most frequent seat of stricture of this description, viz. first, along the membranous part of the urethra, where it is embraced by the sphincter muscle, and secondly, at the bulb, outside of the triangular ligament, where it is covered by the *acceleratores urinæ*. It should also be recollected, that where stricture has been of long duration, the sinus *pocularis* and openings of the ducts of the prostate gland are enlarged, and may receive the point of the catheter. They are situated on the *posterior* surface of the prostatic portion of the urethra. It is of great importance to know exactly the various windings of the canal; the moveable and fixed points; and the seats and causes of obstruction; in order that we may give a proper direction to the catheter, and avoid the formation of false passages.

Mr. Charles Bell, speaking of these cases of spasmodic retention, disapproves of the directions given, not to attempt to introduce the catheter immediately, but first try bleeding, with the warm bath and opium. He says, "that when he has seen a man in indescribable agony, moving about his room, with his body bent to an angle, and has understood that before this attack his urethra was free, and the bladder can be distinguished above the pubis, he has followed the dictates of common sense, and common charity, and done that which he knew would im-



mediately relieve him with perfect safety, he has introduced the catheter and drawn off the urine."

Mr. Bell talks as coolly and confidently as if cases never presented themselves, in which it is impossible to introduce the catheter. He surely does not mean to insinuate that the surgeons who have recorded these cases, either have reported what never happened, or did not possess the necessary tact for passing the instrument. It is true, that in many instances the stricture can be overcome by a judicious use of the catheter, and speedy relief afforded; but as the opposite condition, that of unyielding spasm, frequently comes under our observation, the question simply is, shall we augment the irritation by the catheter, which may prove unsuccessful; or shall we first endeavour to subdue, or moderate the spasmodic action by the approved remedies; no permanent injury can accrue from a little delay; and if medicine does not succeed, the catheter remains as a dernier resort; with the certainty, that the patient will be placed in a more favourable condition for its employment, by the previous treatment.

*Retention of Urine from paralysis of the bladder occurs under various circumstances.* Injury of the spinal marrow will cause palsy of the parts below; the bladder is then paralytic along with the adjacent parts. Old persons are also frequently afflicted with an inability of discharging the whole of the urine; from the bladder having lost the power of contracting to the same extent as in early life; the sensibility of the mucous surface being diminished considerably, and no notice given of an accumulation of fluid, it passes into the state of complete retention. These, however, are melancholy cases, and very generally admit but of partial remedy.

There is one variety of retention, which every physician should bear in his memory, from its liability to appear in young persons, otherwise susceptible of restoration to perfect health; I allude to that which occurs during the progress of protracted fevers. The powers of life being greatly prostrated, the bladder is no longer sensible to the stimulus of the urine, and does not give information when it is so full as to require evacuation; the patient feeling no desire to make water, his attention is not attracted; the physician makes no inquiry, and before they are aware, the bladder is enormously distended, and the patient says his belly is very much swelled; sometimes the suppression of the discharge is perceived; and the physician, instead of examining carefully above the pubis, administers diuretics; and

in a day or two the urine begins to come away in small quantities at a time, to the great *comfort* of both doctor and patient. I am acquainted with the history of a distressing case of the above character. A middle aged man was severely attacked with bilious fever; retention of urine was neglected until the bladder was irremediably paralytic; he recovered, and has since enjoyed good health; but is under the direful necessity of drawing off all his urine with the catheter. Sabatier informs us, that if the bladder does not recover its tone in three or four months, it is lost for ever. In the above case two years have elapsed, and my last information was that the bladder is still palsied. The principal cause of this variety of retention is unquestionably the diminished sensibility of the bladder; because we find that prior to paralysis from distension appearing, the urine can all be removed with the catheter without difficulty; the opposite of which is true afterwards; the abdomen must then be pressed, and the position of the patient changed.

In health, the following is the process for discharging the urine. We perceive at the extremity of the penis a peculiar sensation; the abdominal muscles are made to press on the bladder; the fluid is forced against the sphincter through the open mouth at the prostate gland; the sphincter yields; and the whole canal is filled; the *acceleratores urinæ* press upon the distended tube, and propel its contents; they are so arranged as to draw from behind forwards; and the abdominal muscles keeping up a slight pressure, the bladder also contracting, and applying itself closely to its receding contents, the fluid in the urethra cannot be driven backwards; after the tube is filled, and the urine begins to flow, the urethra acts as a syphon; when the bladder is emptied, its fundus is drawn close up to the base of the prostate gland; the urethra, however, is still full; to empty it the *acceleratores* are brought into action by the will, and with a jerk propel that portion which they cover, and by this means expel what is in front; so soon as they relax, the portion behind rushes forward, the sphincter closes, and the *acceleratores* renew their voluntary effort. It can also easily be perceived by any one, that the abdominal muscles act in concert with the *acceleratores*, in expelling the last drops of urine.

The first steps of the process then, are the sensation and the voluntary effort; if there is no sensation, no effort is made to expel, and retention is the consequence; if there is not sufficient control over the voluntary muscles to force open the sphincter, it is equally certain; if the bladder does not contract as the

quantity of urine is diminished, it cannot be emptied by the natural apparatus; because there would be a tendency to a vacuum, and a certain amount of pressure is required to keep the tube full, and the sphincter open; this uniform pressure cannot be afforded by the abdominal muscles, when the bladder is partly empty; they squeeze it into folds or plaits, when it does not contract. The muscular fibres may be considered as in their natural condition when the bladder is empty; consequently when it is full, there is a constant tendency to contraction; but altogether involuntary, and not strong enough to overcome the sphincter; this contractibility of the muscular coat, is just sufficient after the sphincter has been opened, and the urethra filled, to prevent retrogression of the fluid; and aided by the abdominal muscles, prevents the sphincter from closing, while the *siphonic* action of the urethra, assisted by the *acceleratores urinæ*, empties the bladder. If the muscular coat is debilitated so as not to contract as rapidly as the urethra draws off the urine, there will be every now and then a cessation of the discharge from the closure of the tube by the action of the sphincter, precisely analogous to the closure of the sphincter ani during the relaxation of the abdominal muscles. We now perceive how we may have retention of urine in protracted fevers without paralysis of the bladder; and that it is erroneous to assign this as the cause; we also perceive how important it is to watch the bladder carefully in all cases of great prostration of the vital powers; or wherever there is diminished sensibility of the system in any considerable degree.

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ART. III. *Hints on the relation of Chemistry to Medicine*, by JAMES B. ROGERS, M. D. Professor of Chemistry, in Washington Medical College, Baltimore.

**ALL** real knowledge is obtained by observation and experiment. An accurate perception of the phenomena of nature, as they are displayed in all her departments, and a systematic classification of these phenomena, founded upon their relations in the order of cause and effect, are the rational employment of the true philosopher. The observed relations which subsist among the multitude of events transpiring around him, and not the imaginary ties which may be supposed to unite them, demand his scrutinizing attention. He considers it a fortunate circumstance for the world, and a subject of gratulation to

every well-wisher of the species; that opinions formed in moments of hypothetical enthusiasm, are incapable of being applied to matter-of-fact existence, and are insufficient to weaken the perception of realities, in the experience of all, as well as the speculatist himself. For although, like Phyrro, he may reason himself into the belief of the non-existence of matter, he will be quite as fearful of corporeal injury, when threatened with a blow from a gridiron, as was that distinguished metaphysician.

Nothing, in our opinion, has so much contributed to retard the advancement of medicine, as a science, as that excessive tendency to hypothetical speculation, which has been displayed by most of its distinguished teachers and cultivators. We can hardly estimate, what would have been its present elevation, lofty as it is, had its disciples taken example from the cultivators of general Physics. It would appear as if they had lost sight of the true spirit of philosophy, first clearly inculcated by the great Bacon; or had prostituted it, to the purpose of giving plausibility to metaphysical subtleties, or intellectual abstractions, erected into splendid systems remarkable for their ingenuity; but destined to an existence almost as transitory as the lives of their authors.

However, we have to rejoice, that the age in which we live is distinguished by a spirit of free investigation into the occurrences of nature; substituting the evidences of the senses, for the imaginings of the closet; and a faithful and assiduous observation of phenomena in their varied relations, for ingenious conjectures respecting untangible existences. The physician is as willing to contemplate the human system in health and disease as any other object of physical investigation, through the phenomena it manifests; in the one case, beautiful and interesting in the extreme, in the other, calling forth all his sympathies into active and beneficent operation.

We believe these remarks to be correct, in view of the spirit of the times, in its influence upon the medical profession: but yet much remains to be done, before the medical mind will contemplate its prerogatives and opportunities, with views as expanded and exalted, as the objects of its pursuit are benevolent and humane.

There is no circumstance which is more calculated to delay this pleasing consummation, than the general tendency among physicians to restrict their studies, almost exclusively, to the immediate objects of their profession, making it, as it were, an isolated one, independent of all other subject of human pursuit.

Hence how often is inattention to general science excused as not being immediately connected with medicine, when it is brought into active requisition. So far are we from subscribing to this sentiment, that we believe there is no one profession known among men, which calls for a more close and attentive study of physical science in general, than that of medicine; and we conceive the individual to be more laudably employed, who is thus engaged, than he would be in building a fragile system, however superb, which for a moment is admired, then ridiculed, and soon totters into ruins.

When the subject is considered, in a moral aspect, it is one which demands our most serious consideration. The responsibilities it imposes, are, in most instances, such as cannot be easily evaded; and in no case can avoidable ignorance be deemed sufficient extenuation, where something should be contributed to the benefit of suffering humanity.

The science of chemistry, from its intimate relation to Pharmacy, has been always regarded as forming a branch of medical education. But its importance to the medical philosopher and practitioner, is still not sufficiently insisted upon. Much pains have been taken, to impress the mind of the student, with the necessity of making himself intimately acquainted with the natural relation and organization of the several parts, entering into the complicated structure of the human body; he is taught to examine the function of each particular organ, and their mutual dependencies. Again, in the practical department, in all probability much talent, acute observation, and laborious experience are brought into requisition to aid him in combatting the "morbid ills that flesh is heir to;" while his attention is unceasingly directed to the foregoing employment. In fact the teachers in every branch, but chemistry, are zealous in their particular duties, and the young tyro is prompted to equal zeal and industry in acquiring what is considered absolutely requisite for him to know. But chemistry is viewed as a very subordinate department, and merely a general notion regarding it, thought requisite. A slight acquaintance with the chemical character of a few of the more active pharmaceutical preparations, a vague idea of general principles in the abstract, without any application of them to the immediate subjects of the student's pursuits, comprehend, for the most part, the whole amount of his acquisitions.

Any one, who will take the trouble to examine the matter, will be surprized at the general neglect which prevails among the faculty on this subject; while all will admit, its possible

utility, and some, its absolute importance. To what cause can this be attributed; but to that tendency in the profession, to which I have already alluded, of circumscribing its exertions within a particular boundary, and within this, conceiving that every thing was exclusively medical. Hence, this as well as general science, is regarded of inferior moment, and the physician feels confident in the practice of his art, without the assistance of any collateral knowledge.

We are not one of the number, who would endeavour to explain all the vital phenomena, according to the simple laws of chemical attraction and repulsion; yet we cannot contradict the evidence furnished by fact and observation, that such laws exist in harmonious operation in the living system:—But while we would thus courteously admit this science into the temple of Esculapius, it does not necessarily follow, that we account for every function of the human body, by a reference to acids and alkalis. We are compelled, for the most part to refer all organic functions to the operation of some controlling influence, which physiologists have designated by a variety of appellations, according to their individual views concerning its absolute nature; and although we do not profess ability to divine its *modus operandi*, we are not the less interested to know the facts from which we infer its existence, or the phenomena over which it exercises its controlling power.

The study of chemistry at large, according to the preceding contemplation, may be considered as furnishing only occasional assistance, in unfolding hidden and mysterious functional operations, which must still remain involved in much doubt and obscurity. This is most certainly true; but we do not conceive, that on this account, it should be entirely excluded from our contemplation. Because it will not conduct us entirely into the temple, and introduce us to the immediate presence of the presiding genius, we should not be unwilling to acknowledge its usefulness, in making us better acquainted with the design and character of her abode and operations.

There is another point of view in which we regard this science as a necessary branch of medical education. We allude to its connexion with medical jurisprudence and toxicology. In this relation, we believe, its value is very generally admitted; yet even here, from a strange perversion of the human judgment, or an unaccountable disrelish for the study in all its bearings, we are forced to lament the general ignorance of useful chemical principles. Their application to these subjects would appear so very tangible, and the process of their usefulness so

striking and interesting, that they might be expected to engage the attention of the physician, as they interested the sympathies of the philanthropist. Unfortunately the fact is otherwise. Such in some instances is the want of information on this subject, and the indifferent light in which it would appear to be viewed by many engaged in extensive practice, that even the prominent antidotes for some of the more active poisons are not known; and while the poor patients are suffering under their baneful operation, the physician is trusting to the natural efforts of the system in overcoming it, assisted by the common articles of his *Materia Medica*; and attempts an apology for his ignorance, by the expression of doubts respecting the efficacy or propriety of using chemical antidotes.

We would desire to speak with all becoming deference of our professional brethren. If the subject was one in which we were endeavouring to set forth any favourite system of opinions of a merely theoretical character, unsupported by ample experience, it would not become us thus to address them. But, in as much as we are calling their attention to a subject based upon fact and observation, and which involves considerations of health, happiness and reputation, we do not doubt but that we will be pardoned for some little manifestation of earnestness.

We propose now to pass under review, one or two important functions of the human body, in which we will discover at every step of our progress the value of chemical science.

Respiration has been, at all times, justly regarded one of the most important functions of the animal economy. It is the medium by which, according to an old opinion, it obtains the *pabulum vitæ*; upon it depends the well-being of the whole body. Without it life and motion must soon cease, and the system sink into ruin and decay. Warm blooded animals, as they have been denominated, upon ceasing to breathe, soon cease to live; this fact momentous as regards our species, was noted from time immemorial.

Before the chemical constitution of the atmosphere was determined by its distinguished discoverers; nothing but conjecture prevailed respecting its agency in respiration. At this period, glorious and ever memorable in the annals of science, new views presented themselves to the contemplation of the physiologist, and important facts were furnished by the ingenious experimenter. We need not, at this day, enter into detail, respecting the composition of the air, or the various opinions given to the world, of its agency in this necessary function, before a just idea of the value of one of its constitu-

ents was entertained. But since that period we may perceive the influence exerted upon our knowledge by the advancement of experimental science, and the necessity of attending to each step in the progress of modern investigations.

As experiments were made, there were occasional modifications of theories respecting the use of the oxygen, which was ascertained to be consumed. One doctrine conceived, that the oxygen was absorbed by the blood in the lungs—that in the course of the circulation it combined with the carbon of the venous blood and thus converted into carbonic acid, was discharged in expiration. A much more plausible theory, and one which appeared to explain all the facts observed in respiration, was proposed by doctor Crawford. He supposed, that the arterial blood during circulation received a portion of hydrogen and carbon, in the form of what he called hydro-carbon; in the gaseous state, carburetted hydrogen. To this he attributed its change into venous blood. During the pulmonary circulation this hydro-carbon was supposed to be decomposed, the carbon combined with a portion of the oxygen of the respired air, forming the carbonic acid, while the hydrogen combined with the remainder of the oxygen and formed water in the form of vapour, which always accompanies the carbonic acid in expiration.

Both of these opinions obtained, at the time they were advanced, many strenuous supporters, particularly the latter, and as long as they appeared without contradiction from experiment and observation, were certainly entitled to respect.

We have frequently, in our intercourse with the profession, met with those who had finished their course of scholastic education, a few years after the promulgation of these doctrines, and whose entire occupation since, has been the practice of their profession; and in most instances, these were the explanations they urged. Such might be expected from those who have not kept pace with the improvements in chemistry, and who have not been anxious to know what experiment has developed.

He who has examined the subject carefully, will clearly perceive that there is no evidence for the existence of Crawford's hydro-carbon.

The experiments of Allen and Pepys have demonstrated that the quantity of carbonic acid eliminated, is precisely equivalent to that of the oxygen consumed. Hence there can be none of the oxygen of the air, occupied in combining with hydrogen to form water. Moreover, we have no evidence of



the existence of carburetted hydrogen in the blood, in a state of loose combination, and such a thing cannot be easily supposed to exist.

It is equally difficult to believe, in the absence of experimental proof, that the oxygen can be absorbed, and exist in the blood in an equally loose state of combination, previous to its meeting with carbon, to become carbonic acid.

In order to form a clear notion of this function, or rather the chemical changes it is intended to produce, we must revert to what experiment has unfolded to us of the character of the blood, when it arrives at the extreme vessels of the lungs; we must contemplate the changes effected in it at the extreme ramifications of the vascular system, and we must do all this in the light which chemistry furnishes.

It has been ascertained that the chemical constitution of the chyle, is different from that of well elaborated blood. It contains but a small quantity of fibrin, and a very large excess of carbon. In this condition it is thrown by a short rout into the lungs, imperfectly mixed with the return venous blood, which has undergone the change from an arterial state at the extremities of the arterial circulation, and which has been brought back to the heart surcharged with carbon. So that the whole mass of venous blood in the circulation of the lungs, contains a large quantity of this material, and it is necessary it should be eliminated. This is effected when it comes into near approximation with the oxygen of the air in respiration. It parts with its excess of carbon to the oxygen, so as to form carbonic acid; the chemical character of the chyle and mixed blood are now altered, and a large proportion of fibrin, and all the materials requisite for the growth and sustentation of the human fabric are found to exist in it. In short it becomes arterial blood; ready to be distributed throughout the system. And when it has fulfilled its important office, it is returned to the lungs, there to meet with a fresh supply of nutritive materials; and be again, as it were, renovated; all in obedience to the simple laws of chemical combination and decomposition, regulated in their harmonious operation by the controlling influence of the vital principle.

Connected with these important changes, there is one very important consideration, which has given rise to a variety of opinion. We allude to the origin of animal heat. The uniformity of temperature, which is generally preserved by animals something above that of the surrounding medium, was, at a very early period, conceived to be in some manner connected

with respiration. But not until Crawford entered upon the investigation, were there any very definite opinions entertained upon the subject.

At this time it had become a general opinion among chemists, that heat was always evolved from the combination of oxygen with inflammable bodies. In most of their experiments they discovered this to be the case, and with a great appearance of plausibility, attributed it to a diminution of capacity in the newly formed compound. Hence arises the heat evolved in the formation of carbonic acid, from the combustion of charcoal in oxygen.

This fact seemed to render the explanation of at least one source of animal temperature in the lungs apparently easy. The carbonic acid there formed, by the union of the carbon of the blood with the oxygen of the air, would be attended with a similar evolution of caloric, from a diminution of capacity. But the uniformity of temperature throughout the body, showing its benign influence, in even the most remote, and most delicately organized structure, and the injury which would, in all probability, occur to the lungs from the sudden evolution of so much in a sensible form, appeared at first to present an insuperable difficulty in the way of this explanation. It was, however, soon after believed, that experiment proved a considerable difference of capacity likewise to exist between the venous and arterial blood, so that the heat which without this difference would be evolved in a sensible and consequently injurious form, is immediately taken up, and becomes latent, in the newly formed arterial blood; the arteries becoming the channels by which it is conveyed in this innocent state, to be given out again at every point at which the return into venous blood occurred. This taking place slowly, but uniformly, wherever secretion went on, would of necessity preserve in every part of the system, an uniformity of temperature.

Such is a very succinct view of the justly celebrated theory of animal heat, founded by Dr. Crawford.

We would not at this day be compelled to experience the mortification of discovering the instability of so beautiful a structure, had not philosophers been rather too prone to generalize upon a few ascertained phenomena; and to stop short in experiment when they conceived they possessed a sufficient number of facts to furnish plausibility to their theories. We are not, however, left entirely without the means of accounting, at least in part, for the changes occurring in this interesting process. If some of the links in the chain of explanation are ob-

served to be wanting, we have yet enough remaining to inspire us with confidence in continuing our observations, while the errors of other inquirers will instruct us not to be hasty in the application of whatever we may discover.

In the first place, although it is certainly a fact that there is an elevation of temperature resulting from the combination of carbon with oxygen gas; yet from late accurate experiments performed by M. M. Clement and Desormes it would appear that this effect cannot be attributed to a diminution of capacity. These ingenious chemists ascertained that the specific heat of carbonic acid, or which is the same thing, its capacity for caloric is rather *greater* than that of oxygen. The tables of Crawford and Dalton which make it less, are considered erroneous. The recent researches of these philosophers, Petit and Dulong, Delaroche and Berard, and many others, have at least rendered doubtful the truth of the whole doctrine of latent heat, and bid fair to subvert one of the most beautiful speculations in modern chemistry.

It has likewise been shown that but inconsiderable difference of capacity exists between venous and arterial blood. Hence the main pillars of this imposing theory of Crawford are demolished, and we are forced in view of the subject, to be contented, for the present, with the enunciation of a general law of the evolution of caloric, deduced from actual experiment. "That it is the general result of the actions of any substances possessed of strong chemical attractions, or different electrical relations, and that it takes place in all cases in which intense and violent motions may be conceived to be communicated to the corpuscles of bodies."

In every part of the animal body, the elements constituting it are arranging themselves according to new relations; in every part chemical attraction is taking place, and hence in every part must we look for the evolution of heat.

We must, however, regard the formation of carbonic acid in the lungs as the principle source of animal temperature; for it has been ascertained by the experiments of Dulong, as referred to by Pouillet, in his "*Elemens de Physique*," that the quantity of heat evolved in this process, during a given period amounts in some instances to eight tenths, and in others to nine tenths of the whole quantity generated in the system during the same period.

We thus perceive the importance of experimental science in this department of physiology, and especially chemistry, although this latter is so little appreciated by some, in its application to medical subjects.

So much has already been said in relation to this one function; that we feel unwilling to weary the reader's patience by any farther comments on this part of our subject; but will merely remark, that in order to the physiological examination of many important operations of the living system, we are compelled to advert to the facts furnished by chemical science. Contented to conduct ourselves as the humble interpreters of nature, without attempting to explain beyond the evidence of our senses, or fair induction from facts.

If we are so dependent upon chemistry, for clear physiological views of many interesting animal processes; we are frequently not the less indebted to this noble science for assistance in our pathological views respecting several morbid affections. This would appear of necessity to follow from the preceding observations. Correct pathology cannot be obtained with regard to any diseased function without a previous accurate acquaintance with the physiology of that function. For in what does disease consist but in an unnatural change of the former healthy action; and by what possible means can we expect to discover the real character of this change, if ignorant of the natural healthy state. If then pathology cannot progress with certainty, without the aid of physiology, and if the latter receives assistance from chemistry, the former cannot be entirely independent of the same science.

In illustration of the truth of these remarks, we might revert to the production of urinary calculi, or to the changes which are observed to occur in the secretion of the urine of the kidneys, in diabetic patients indicating the use of an almost exclusive animal diet. But we will reserve the particular consideration of these subjects for a future period. We would now merely advert to them in substantiation of our opinion of the importance of chemical knowledge to the pathologist.

Common opinion has so completely identified chemistry with pharmacy, that we consider it unnecessary on the present occasion to enforce the necessity of the connection.

In conclusion we would merely remark, that those who are still pertinacious in their prejudices against the importance of this science to the medical man, and who as long as they are ignorant must be sceptical, would do well to investigate the subject; for we feel well assured that by doing so they will perceive, it involves the question whether ignorance is not culpable, and when the opportunities of information are furnished, whether neglecting to embrace them, does not argue the influence of a worse motive than mere distaste for such pursuits.

Art. IV. *A Case of Fungus of the Antrum, communicated to the editor in 1825; by MICHAEL A. FINLEY, M. D. of Williamsport, Md.*

In March, 1824, I was requested to visit, in consultation with doctor Smith, William, a dark mulatto man, belonging to Mr. Geo. Lowe, of this county; who had been indisposed for some months. He was much reduced, complained of constant pain and uneasiness of the right side of the face; the eyelids on that side were slightly edematous, the nostril obstructed by a fleshy substance, resembling polypus, which completely filled its cavity, and by pressure on the septum nasi, obstructed respiration, on the left side. There was, also, a slight swelling observable towards the inner canthus of the eye.

Having examined the affected side, and being able to trace the obstruction to some distance, I considered it a case of polypus nasi; and, attributing the edematous state of the eyelids to the local irritation from this cause, it was determined to operate by extraction. After making the necessary preparation to arrest excessive hemorrhage which might occur, I extracted it by the polypus forceps; it was not so firm as expected, and was detached, by pieces, which required the repeated introduction of the instrument, and rendered the operation more troublesome. The hemorrhage was less considerable than had been anticipated. Having satisfied ourselves, by a careful examination, that the nostril was completely freed, from all traces of the disease, as the respiration was perfect, he was ordered tonic medicines, with a generous diet, to remove the existing debility; and a blister was applied, to excite the activity of the absorbents, and more rapidly restore the symmetry of the face. Under this treatment his general health improved; the uneasiness of which he had previously complained was removed, and the prospect of a permanent restoration to health was flattering.

In about two months, however, I was informed that his right nostril was again obstructed; that the pain and irritation in the head had recurred, and the fleshy tumour could be distinctly observed. As he had derived so much benefit from the former operation, and having the same impressions of the nature of the disease, extraction was resorted to, as the most eligible course which suggested itself. The hemorrhage was considerable, but ceased as the successive pieces were detached, and the nostril cleared.

After clearing the nostril backwards, until no further traces of the disease in that direction could be felt, I discovered in the

inferior part, a fungus or fleshy substance, which appeared to communicate with the maxillary sinus; I then suggested to my friend, doctor Stephen R. Beatty, the more immediate attending physician, my suspicions of the existence of a fungus tumour of the antrum; subsequent observations confirmed the correctness of the opinion; two of the molares in the direction of this cavity, becoming loose, were extracted, and the fungus protruding through the alveolar sockets, removed all doubt as to the nature of the case. The tumefaction of the cheek became considerable; and some suppuration occurred in the mouth and nostril, which became completely obstructed. From the constitution sympathizing, his health and strength rapidly declined. Under these unpromising circumstances, it became necessary to resort to the most prompt and decisive measures, in order to remove the cause of irritation. The deformity of the countenance was considerable, his appetite much impaired; and the disease extending rapidly, he became anxious for relief, and was willing to submit to any measure which might be considered most eligible.

With the hope that by intercepting the direct supply of blood to the diseased part, the further progress of the tumour would be arrested, and that the absorbents, by acting with energy, might remove the tumour, or cause it to slough; it was determined, in consultation, to apply a ligature to the right carotid artery.\* The interesting case of Underwood, communicated by yourself—the case of anastomosing aneurism which occurred to Professor Pattison, although not precisely analagous, encouraged recourse to this mode of treatment; and the case recorded in Burns' Surgical Anatomy, in a letter from Professor Davidge, was an additional encouragement, (as the cases strongly resembled each other,) to hope that our patient might derive advantage.

The necessary arrangements being made, on the 27th July, 1824, in the presence of doctors S. R. and J. J. Beatty, I commenced the operation, by making an incision to the extent of an inch and an half, in the direction of the inner edge of the sterno cleido mastoideus; having exposed the fascia, it was carefully opened, and thus laid bare the edge of the muscle; the handle

[\* Our correspondent was supported in his views, and method of operation, by the case of professor Davidge. For ourselves, we never did think it probable, that a sarco-vascular tumour, (and this is the character of most of the tumours, which we have seen about the face,) would waste away, from interrupting the branches of one carotid artery. More ample experience, since the operation of doctor Finley, shows most satisfactorily, that this method will not do in any other than the aneurismal tumour. Ed.]

of the knife was used to break up the cellular membrane. The delicate sheath enclosing the internal jugular, par vagum, and carotid, was raised by the dissecting forceps, opened horizontally, and the artery separated was raised by the handle of the knife. Having ascertained that it was alone, a ligature of eel skin,\* of moderate size, was firmly made, cut off close to the knot, and the artery returned to its place—the wound was dressed with adhesive plaster. No unfavourable symptom occurred, the wound readily united, and he experienced no inconvenience from the operation. The tumour became pale, the skin wrinkled, which had been previously tense and discoloured; and he was able to take more nourishment, and enjoy more comfortable rest, than for a considerable time before. The pulsation in the temporal and fascial arteries ceased, and his general health improved, for the first two weeks.

At the expiration of the third week, the tumour evidently enlarged, and extended to the temporal muscle, occasioning much tenderness on pressure; the nostrils obstructed, and it was evident that extirpation of the tumour would present the only hope of saving his life. The existing debility rendered the prospect not very flattering; but anxious for relief, he was desirous that farther measures should be resorted to for this purpose—the operation was determined on, and in the presence of several medical gentlemen, I commenced, by an incision from near the temporal muscle, extending it obliquely across the cheek, to the angle of the mouth; by a second incision through the integuments, in a direction nearly perpendicular to the first, the tumour became distinctly visible, adhering to almost every part of the surface of the upper jaw, on the affected side; extending to the inner canthus of the eye, and completely filling the “maxillary sinus,” the exterior walls of which were destroyed. By a careful dissection it was detached, as accurately as possible, from its various points of ad-

[\* It appears, by the statement of doctor Finley, that there was some suppuration about the ligature on the carotid, and the artery was cut in two. We think the eel skin is too firm and unyielding for a ligature; and although it is an animal structure, yet such is the dissimilarity between the fish and land animal substance, that it does not seem probable there will be that agreement between parts of the one to the other respectively, as there will be where we apply like to like, in kind. No suppuration having occurred in any of our operations in which we used buckskin ligatures, we think it the best ligature. Our respectable correspondent will please to excuse our remarks—we are persuaded, his object in making his communication, is the improvement of our science, and our experience leading us to a knowledge of the superiority of the buckskin ligature, over all other ligatures, we trust our suggestion will be received in that friendly spirit in which it is made. Ed.]

hesion, and removed; any remains which could not readily be detached by the knife, were reserved for the actual cautery, with a hope that in this way the disease might be eradicated—the hemorrhage was inconsiderable, not requiring a ligature to any of the vessels, although more than was anticipated, having reference to the ligature previously applied to the carotid artery.

He became very faint and exhausted before the wound was dressed; but soon revived in the recumbent posture, and relished nourishment; and rested better the night subsequent to the operation, than he had done for some time—as soon as the wound became clean, by the discharge of clotted blood, with some purulent matter which formed, the actual cautery was freely applied, to the remains of the disease, without giving much pain, the fungus being possessed of little sensibility—some discharge of pus continued through the alveolar sockets, into the mouth, which gradually impaired the tone of the stomach; and in a few days occasioned a troublesome diarrhea which reduced him to a state of extreme debility. By the use of appropriate remedies it was checked; but from the little nourishment taken, he gradually declined, and death occurred in the third week subsequent to the operation.

Having obtained permission to examine the diseased parts, a vertical section of the cranium was made, extending from the superciliary ridge towards the coronal suture, and downwards along the left side of the vomer through the alveolar processes. This was met by an opening through the temporal bone, and continued so as to detach all the affected side from the ear to the corner of the mouth. The posterior walls of the antrum were found destroyed, and the fungus extending towards the base of the cranium, and some portion in a gangrenous state, exhibiting so extensively the progress of the disease, beyond the reach of the knife, as to convince us plainly, of the hopelessness of the case, from surgical resources.

The neck was examined slightly; the artery appeared shrivelled, and divided, where the ligature had been applied, and some pus was found in the remains of the cellular structure; in this case no inconvenience was experienced on pressure, and the wound exhibited but little eschar, and no pain was complained of in the neck.

The edematous appearance of the integuments had nearly been removed, even after the operation, and the face had, in a considerable measure, regained its symmetry. The appetite had been much impaired, before any operation had been per-





formed, and evidently improved for some time after each; but from my first examination of the case, I observed an unpleasant smell, on inspecting the mouth, which I was disposed to attribute to some decayed teeth, until the fungus presenting in the mouth with some discharge of purulent matter, removed all doubt as to the cause.

The tumour possessed a considerable degree of vitality, as was evinced by its increase, notwithstanding the ligature to the carotid artery; it was disposed to bleed freely on the slightest injury—and on two occasions, there was a considerable hemorrhage, from the nose, and through the mouth; after the direct supply of blood had been interrupted\*—this I was disposed to attribute to the previously engorged state of the vessels; but the hemorrhage did not afterwards occur, although the case, from the causes already mentioned, terminated unsuccessfully, I should conceive, that no legitimate inference could be deduced against the propriety of resorting to the same surgical course, in an earlier stage of the disease, before the system became so much prostrated—it may be remarked that the pain and distress of the head, were much alleviated by the ligature to the carotid artery; and never troubled him so much afterwards—the dis-

[\* We have noticed in our remarks, upon tumours of the superior Jaw, the fact of a similar occurrence taking place in the case reported by professor Davidge. In this case we are told, considerable hemorrhage occurred from the nose five weeks after the operation. This free hemorrhage after tying the carotid on one side, shows, that although the disease is checked in its growth, by the interruption of the circulation, to such extent as to give us greater influence with the caustic, still we are now well aware of its inefficiency in the entire removal of tumours. The case of doctor Finley, with that of doctor Davidge, serves to show, that the supply of blood is more free after applying the ligature to one carotid, than we should have expected, and we are, by the facts thence derived, led to hope, that in desperate cases, we should succeed by tying both arteries; or rather after finding the first insufficient to check the progress of the disease, we should then tie the other. But after all, we speak here without any positive proof of the validity of our opinion.

We believe all the light which has yet been shed upon this subject, supports fully the belief, that no plan of treatment has yet been suggested which promises so well, as that which was successful in the case of Underwood; but there is an important circumstance connected with these tumours, which, so far as we know, has never been noticed: it is this—The vessels, as well in the tumour as immediately adjacent, take on a peculiar and increased action, in good degree independent of the heart, that is, so far as the increased impetus of the blood is concerned; and we believe there is generally an increased force of circulation, in such tumours. This has a near similitude to certain diseased actions, which we have treated of in our lectures under the term hemic inflammation, of which we shall, at an early day, take notice. Ed.]

tension of the integuments and the necessity of breathing entirely through the mouth, from the absolute obstruction of the nostrils, would add very much to the uneasiness; but to any inquiries as to pain of the head, his answers were in the negative. This disease is rare, and the cases which have occurred, render it doubtful whether they can be removed by surgery; but it is to be hoped, that the relation or record, of the mode of treatment pursued, may eventuate in some plan which may be more successful, and this desirable event will be as much promoted, by the communication of unsuccessful, as of the successful cases. This case also *affords additional evidence* of the safety, and success of tying the carotid artery, as no unfavourable symptom occurred, which could correctly be attributed to the operation;\* and it will also tend to the application of this important principle, more extensively to diseases of the head—I would merely remark in addition, that the delay between the last operation and the preceding, was to test the efficacy of cutting off the direct supply of nourishment, from the diseased part, before resorting to the excision, which would constitute a dernier resource. The post mortem examination, by ascertaining the extent and ramifications of the fungus, adds no inconsiderable interest to the case—the tumour appeared, by tendinous cords, to communicate with every recess of the superior maxillary bone, on the affected side.

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Art. IV. *Observations on Tumours of the Superior Jaw; by*  
HORATIO G. JAMESON, M. D. &c.

The editor of this journal, having determined to admit as little as possible of controversial writings, and wholly to exclude all personalities from the work, thinks proper to disclaim all intention of personality in the following observations, upon diseases of the upper jaw. Should these observations fall under the notice of any of the persons whose names we have had to introduce, we wish them to be assured, that nothing but a

[\* The reader should not forget that doctor Finley is here speaking of a case which occurred in 1825, and therefore, at a period when comparatively, we knew but little about the consequences of cutting off the current of blood to one side of the head. The many cases which have since occurred, leave no room for entertaining any fears on this subject. This objection, therefore, never can lie in the way of any operation which requires the ligature to one or even both carotids. Ed.]

sense of the great importance of the subject, together with the hope of improvement in the treatment of this intractable disease, has induced us to take up the subject.

The true principle involved in the curative means, for tumours of the superior jaw, seems to be well understood; but strange as it may seem, only one case, out of the number we shall notice, was treated throughout agreeably to, what we believe to be, sound principle; and that patient was cured. This was the case of James Underwood, which we shall briefly notice; and then point out, in what respects the several operations which have been performed in this state, differ from the case above cited. In doing this, we shall show that the treatment after the operation, in this case, differs from that of all others.

The following extracts on the case of Underwood, are taken from the 4th vol. of the American Medical Recorder, page 222.

"James Underwood is a young man of an athletic habit; he has a large tumour on the maxilla superior of about thirteen months duration. It commenced from the external and lower edge of the gums, and afterwards gradually extended over the middle of the above named bone, pushing upwards towards the eye, and forming a considerable tumour on the outside of the maxillary bone. It also extended upwards and backwards, along the internal surface of the superior jaw; this portion of the tumour now filled about half the palatine arch, and extended somewhat below the teeth, and so far backwards as to be in contact with the velum pendulum palati."

"About ten months after I was first consulted, I was requested to visit Mr. Underwood again, and found him in a most deplorable condition." The following description will shew the wretched state of the patient. "The mouth is wonderfully stuffed with a tumour, having three lobes—one growing far out of his mouth, one pushing the cheek far out over the angle of the inferior jaw; and the third extending along the roof of the mouth, and into the fauces, so as to render deglutition, and respiration, nearly impracticable.

"The patient has been unable for ten nights to lay down at all, and for several weeks previously, it was seldom in his power. He sleeps in a sitting posture, but is constantly in the most imminent danger of suffocation. When he sleeps, he has frequently to rush suddenly to the window, to seek a full draught of cool air. His sleep resembles a person in a slight convulsion. He has but little appetite in general—at present the small entrance through his mouth rapidly diminishes, and he

is now no longer able to take what is absolutely necessary for the support of life.

"His mouth is greatly distorted, the lips thin, much extended and excoriated. That part of the tumour which is outside the mouth, is covered with brown scabs, and on its upper surface, are many large vessels visible; these have bled profusely at times, and have reduced his strength greatly. The base of the tumour extends from the middle of the palatine arch to the pterygoid process, and over all that space which had been covered by the gums. The teeth are long since forced out of their sockets, and are seen sticking in different and distant parts of the tumour."

This tumour when removed, weighed about two ounces less than two pounds. When we take into view its size, and extent of attachment, involving the pterygoid process; and that the disease had destroyed the whole of the superior maxillary bone on one side, and find it so vascular as to endanger the life of the patient, by frequent and very copious hemorrhages, we may be allowed to say, that this disease was truly formidable; and such as most probably could not have been conquered, by any other plan of treatment, than that employed in the case. The principle involved, as relates to the operation, has been expressed thus, in the report of the case. "Aware of the success which attended the taking up the carotid, by Mr. Travers; in a case of aneurism by anastomosis; and being also aware that there was no very great danger attending the cutting off the supply of blood through the carotid, I engaged in this operation with a good deal of confidence, believing that by taking up the carotid, I should not only obviate the risk of hemorrhage, but thereby lessen, in a great degree, the risk of the reproduction, which has been hitherto so appalling in such cases."

The following extract will show that we did not search curiously among the bones of the antrum, nor the spongy bones after the tumour. "An incision was carried through the tumour from the middle of the palatine arch to the posterior edge of the pterygoid process, but the incisions were not carried so high up as the bottom of the antrum; and there remained after the operation a good deal of swelling and thickening of the parts." We were induced to adopt this procedure for the following reasons. The patient being extremely debilitated, would have incurred much additional risk of sinking under the violence of the operation by prolonging the use of the knife, and after all, there was no certainty that every part of the disease could have been removed from among parts presenting

surfaces so extremely irregular as obtains in the bones connected with this disease.

If the interruption of the supply of blood might not be sufficient to lead to sloughing or suppuration, it was presumed that it would at least, be such as to give much greater efficacy to the action of caustic.

In the treatment of the case we have stated that "in the second week he had severe throbbing pains through his cheek," and the third week there was "severe suppurating pains and considerable discharge of pus," fourth week "suppuration continued." This week "commenced the use of caustic—a tin tube was procured with a calibre just large enough to receive a piece of caustic of the usual size, and into this was fitted a piece of wood, by which the caustic could be forced up the tube. This tube, furnished thus with the caustic and sliding stick, was held firmly against the bottom of the antrum and the caustic held against the part by means of the sliding stick, for ten or fifteen minutes. A few repetitions of this opened the antrum."—"After passing up the caustic and confining it by means of a bit of sponge, some sloughing was produced and very violent pains were excited. The caustic was now discontinued internally, but outwardly it was applied every three or four days."

"From this time he has been rapidly improving in health; and the swelling of the parts is diminishing, under the application of the vegetable caustic, applied two or three times a week. And at the present time, nearly three months after the operation, there is no appearance of any growth. The velum pendulum palati is quite free, the part from which the tumour was cut is rapidly assuming a healthy appearance, resembling the gums in substance."

Let us now briefly recapitulate the principle and the practice employed in the foregoing case, and then proceed to notice several subsequent cases; in doing this, we shall be enabled to point out in what respects the treatment differed, in all cases, from that employed in the case of Underwood. We tied the carotid to prevent wasting hemorrhage; and also, with the expectation of reducing the vitality of the associated structures. By this we gained something by suppuration, and greater efficiency from the employment of caustic. We refrained from tracing out the disease among the bones of the face, because we were fearful of the consequence of a prolonged operation; and because we did not expect to succeed wholly in effecting our purpose, by the most tedious and painful dissection. We trust-

ed to suppuration, and to the use of caustic, employed as we had previously employed it, in the case of George Mauter.\* To this combination of principle and practice, we have reason to believe, was the cure owing—we are supported in this opinion by the subsequent failures in other cases, every one of which have been differently treated.

We deem it proper that justice should go hand in hand with science, we shall therefore very briefly notice some observations of Mr. Pattison, formerly of Baltimore, on the principle involved in this case, in order to see how far it agrees with his own practice. Mr. Pattison, after stating that he held certain views, tells us, “these principles, which are universally admitted, constitute the basis of a theory, which has dictated the plan of treatment, I have considered the most advisable to be pursued, in cases of tumours in the antrum, and which has, where executed in the only cases I have known, proved successful.” We are persuaded, notwithstanding the use of the plural, that Underwood’s case is the only one cured of that kind of disease, of which Mr. Pattison is here speaking. Again, Mr. Pattison, after telling us of a free expression of his opinion, as to the best mode of operation, concludes thus—“To my friend, doctor Davidge, who was standing with doctor Jameson in one part of the room, I explained particularly my sentiments, and insisted on tying the common carotid artery of the side on which the tumour was situated, before any attempt was made to extirpate it. I did not apprehend that during the operation of its removal the patient would be subjected to hemorrhage, and that this was to be guarded against, by the ligature of the artery. Another, and, in my opinion, a far more important object was to be gained by it.” He thus goes on to express his views more at length, as to the advantages to be gained by interrupting the direct supply of blood to such tumours, all which we believe to be correct in principle; but as regards the assertion of his having originated these views, and given them to me, I will not undertake to say what Mr. Pattison may have said to Dr. Davidge, and others; but, I well know, I never heard any such doctrine from him. But we wish to touch this matter as lightly as possible. The subject under consideration is one of extreme importance, and it is proper that I present all the cases which have come under my notice—

\* This was a case of very extensive sarcomatous tumour of the thigh, so extensively spread as to render extirpation with the knife impracticable. By inserting arsenic into the body of the tumour it was entirely removed. See the Philadelphia Recorder, vol. 6. p. 59.

in doing this it must be shown, that Mr. Pattison did not avail himself in his cases, of those sound principles, which he seems to think so clear and important.

By reference to the case of Underwood, it will appear, that he was operated on Nov. 11th, 1820. In the month of April 1821, five months after my operation, Mr. Pattison operated on the Revd. Mr. Jefferson, for disease of the antrum, attended with a very extensive tumour. Such was the extent of the disease that it was thought necessary to remove the eye as a part of the operation. An attempt was made to remove the disease entirely, *but the carotid was not tied, alas! alas!* The disease soon sprouted out anew, and hurried this patient to his grave. Where were those principles detailed to doctor Davidge? This was the case of a gentleman of uncommon fortitude who was but moderately reduced, and naturally of sound constitution, and whom I saw in the last extremity of his distress, with professor Baker of this city. Need we say that this gentleman would have had a better chance of recovery if the carotid artery had been tied?

The next case we have to notice came also under the care of Mr. Pattison, and notwithstanding that Mr. Pattison, in the appendix to his republication of Mr. Allen Burns' work, has introduced three cases of disease of the "antrum," he did not deem the case of Mr. Jefferson, and the one we are about to mention, worthy of notice. It being my object to show the relative advantages of the several plans that have been adopted, we must expose to the light of day every thing which may serve to elucidate our principles, and correct our practice.

Two or three months after the operation on Mr. Jefferson, a negro man was brought from Virginia, and placed in the Baltimore hospital, under the care of Mr. Pattison. We do not deem it necessary to be precise as to date, since this operation was witnessed by an unusually large number of professional gentlemen, and took place many months after the operation on Underwood. I saw this boy on the evening previous to the operation—he was much reduced, though the tumour was not near so large as that of Underwood. I was not present at the operation, but saw and conversed with several gentlemen who were present. From them, I learned that the carotid was tied, the cheek laid freely open, and every vestige of the disease particularly and curiously sought after, by various cutting instruments, in doing which, considerable violence was done to the bones; This operation was performed about five o'clock in the evening—next morning before eight the patient was dead. If Mr. Patti-

son was guided by the principles he lays down, why did he persist in the removal of parts till his patient was prostrated beyond recovery?

We also find in the appendix to Burns' work, an account of a case reported by doctor Davidge. This patient was sent from a distant county of this state, of whom doctor Davidge says—"On the 3d of April 1823, a negro man at the house of Mr. Floyd, was put under my professional charge; he laboured under a fungus of the antrum of the face; the condition of the body was hectic, and very much emaciated; the upper part of the cheek protruded, and was much distorted; the tumour had destroyed a considerable portion of the lower, and external region of the superior maxillary bone, and descended into the mouth. The finger by pressing the fungus, a little to one side, could be passed into the antrum." The doctor proceeds to tell us that "the tumour left to itself protruded down through the opening in the bone. It gradually fell into mortification, and sloughed away so completely, that no vestige could be discovered by the most careful examination, by the finger introduced into the antrum; no part was removed, by the knife, scissors, or caustic. I was solicitous to ascertain the effect of tying the artery, on the tumour, and perceiving it fall away so rapidly, I merely desired the patient to pay regard to the state of the mouth, and frequently cleanse it."

In this case we may remark, that the plan of treatment differed materially from that employed in the case of Underwood. We will not dwell on the fact that this tumour was suffered to mortify and slough away in the mouth. It is not our desire to find fault, we wish merely to compare fact with fact, and, if possible, arrive at correct inferences. If it had been found best to leave such tumours in situ, the horrible annoyance arising from a sloughing mass in the mouth should be borne, but we have nothing, either in theory or practice, to recommend the measure. Sound reflection, and our experience, seem to justify the opinion, which I had, long since formed, that you must cut off the supplying vessels; remove the mass of the disease; and pursue the remains with caustic.

Doctor Davidge tells us that, "a day or two previous to his leaving the city, a very considerable hemorrhage took place." This we deem an interesting fact, since the circumstance of a very considerable hemorrhage, "from the nose," goes to show that notwithstanding the great reduction of vascular action in such tumours, from tying the carotid, on the side affected, that, at least, in some cases this condition is pretty soon removed;



most likely by a renewed supply from the artery of the opposite side. This makes it perfectly clear, now that we have had time to reflect on the matter, that the hemorrhage should have been the signal for tying the artery on the sound side. I would certainly adopt that expedient under such circumstances.

This patient we are told died, about six weeks after the operation, of "lock-jaw." No clearly marked reason can be assigned for the occurrence of this disease. We are told that the parts concerned in the operation were found in a good condition, but we are not informed as to the precise state of the disease of the mouth. As there was hemorrhage nearly five weeks after the operation, we have reason to believe that the vessels, on or near the surface, must have been flaccid, and might have been rendered more healthy, by the use of lunar caustic, whether the second carotid had been tied or not.

Before closing this case, I wish again most solemnly to aver that I have no feeling to indulge, that I wish to avoid giving offence—I criticise not to condemn, but with the sole motive of striving to bring to my aid, all the light I can collect, on this interesting subject. It is only when we shall have fully collated, and marked the results, of the various expedients employed, to arrest this frightful disease, that we may arrive at some share of confidence in the therapia, which have been variously modified.

The remarks of Mr. Pattison upon tumours of the antrum are concluded with the following case. "Since I have received the proof of this sheet, I have been informed, by my friend doctor Hall, that he has lately tied the carotid artery, in a case of fungus of the antrum, and that although no operation was performed on the tumour itself, the disease was removed."

This case seems, by Mr. Pattison's publication, to have occurred in the year 1823; and was a public patient at the almshouse. I have been informed from a source not to be doubted, that in the case reported thus briefly, there was for a short period some subsidence of the tumour, and the patient was supposed to be better, but presently he returned to the almshouse, and died of the disease of the antrum. After this light on the subject, none will be so sanguine in their expectations of arresting the growth of a fungus of the face, by tying one carotid. Whether the tying of both would lead to a better result cannot be decided, till the experiment shall have been made. I do not believe that we should succeed by this method. It seems necessary, not only to reduce the circulation, but to cut away the main

mass of the tumour, in order that we may be enabled to apply caustic to the roots, (if we may so speak,) of the disease, and thereby not only have the greater influence of the caustic, applied while the circulation is most reduced, but, also, give new action to the vascular tissues, by which we strengthen the vessels, and condense the whole degenerated structure of the parts immediately adjacent to the tumour.

I have next to notice the case of the Revd. Mr. McDowell. This gentleman put himself under my care, for a tumour of the antrum. The following description is from my note book, for 1827. "The Revd. Mr. McDowell's case of fungus of the upper jaw, is of two or three months standing; about equal in size to a hen's egg; all the fore teeth loose; from the first incisor on that side, to the last molar; tumour in the anterior part, very soft, and ulcerated, admitting of a probe passing into the antrum; little or no pain—was cut off about a month ago, but has already attained a greater size than before. In short, it is a spongy tumour of the gums, extremely vascular, and increasing perceptibly in size, every day; and now extending up beyond the attachment of the lining membrane of the mouth, especially towards the malar bone."

I do not deem it necessary to relate all the particulars of the operation—the following concluding remarks will embrace all that is essentially necessary. "Every part of the tumour being removed, as far as I could ascertain, I scraped the wounded surface freely with a raspatory. The antrum was open so that the finger could be passed in, by which I ascertained that the disease had not yet reached that cavity." The whole of the alveolar process, and a considerable part of the superior maxillary bone, were removed by this operation.

Three days after the operation it was found, that a considerable tumour very vascular and soft, projected from the bottom of the antrum. Fourth day, applied lunar caustic freely, by pressing the dry caustic a few minutes against the most flaccid parts. Fifth day, a strong disposition towards reproduction shows itself; applied caustic freely. I do not consider it necessary to follow out the details of the treatment, suffice it to say, that about two weeks use of the vegetable caustic, applied by means of the tube, as in the case of Underwood, brought the wound to assume a favourable aspect; and I felt confident of a favourable, and speedy termination of the case. My patient, at this time, imprudently exposed himself on the pavement in a slight rain, without his hat, caught cold, and in two or three days was overtaken with symptoms of tetanus. These increased till they

became violent, and little or no hopes were entertained of his recovery for several days. He however grew better after some days, and was able to go about the house, but his constitution suffered a shock from which it never recovered; and he died about three months after the operation. A slow hectic seemed to hang about him, and his strength gradually declined. Finally, during some very hot weather, bilious fever supervened and carried him off. The caustic, principally the lunar, was applied almost daily, till near the period of his death; and, during the last two or three weeks, there was reason to believe, that the morbid action had been corrected, and every thing assumed a favourable aspect. Indeed, I still think that if Mr. McDowell had escaped the tetanus, he would have been relieved; but beyond all doubt, the cure would have been facilitated, and the long suffering, from the caustic, much lessened, if I had tied the carotid artery. I shall have occasion hereafter to show, that there was an unusual predisposition to tetanus during the year in which Mr. McDowell underwent the operation.

I have now fairly represented the circumstances of the several cases, of disease of the antrum, which have occurred in this city; and I am led to the conclusion, that there is but one rational plan of treatment. Nothing else is to be depended on, so soon as either the antrum, or the bony structures are involved in the disease. Let it not be said, that this too often fails—the plan which I propose, and have practised, is the only one which has succeeded, and yet it has never been tried except in the case of Underwood. No judicious surgeon will object to the operation for the scirrhus state of the female mamma, under favourable circumstances, and yet we are all well aware of the uncertainty of the result. Every surgeon of extensive experience has seen the operation sometimes succeed, he has oftener seen it fail. It is to be feared this will be the case with disease of the superior jaw, but if we can, in this last affection save a portion of our patients, as we do in cases of scirrhus of the mamma, why not operate. And it can scarcely be doubted, that as in cases of scirrhus the chances will be greater, in proportion as the operation shall be earlier employed, so, in cases of fungus of the face, success may be expected just in proportion as we shall more early, put into use the proper remedies.

Such has been the intractable nature of these tumours of the face, that there is not only sufficient inducement to recommend the most effectual measures, so soon as the disease is fairly characterized; but with my present views, I consider it an im-

perious duty to operate early. It is to be hoped that in most cases, particularly in the early stage of the disease, tying one carotid will be found sufficient; but where the tumour is very large and highly vascular, or where it shows a strongly resisting disposition to the caustic, we should tie the carotid on the sound side also.

One of the most important circumstances connected with the subject of tumours of the jaws, is, the fact, that a majority of cases commence their career in form of a small fungus tumour, appearing from between the teeth, or on some part of the gums, or the outside of the membrane of the mouth, that is, between the attachment of this lining membrane and the teeth. Sometimes the gums become puffy, and swelled over the root of a tooth, or a vascular and flaccid tumour sprouts out between the teeth, or on the lower edge of the gum, where it adheres to the tooth. Sometimes it is attended with, or rather preceded, by caries and pain in one or more of the teeth.

We believe that it will be found, in all cases, that these tumours proceed from the periosteum or bone; and if there may be some doubt, at first, whether it be a mere gum boil, or a fungus, a little time will enable us always to distinguish, the one from the other. A boil has a more regular rotundity, the texture to the touch is firm and smooth; the pain is throbbing, and, in a week or two at farthest, we shall have a share of elasticity in the tumour, from the presence of pus. But if the surface is spongy or softish, or presents much inequality of aspect, the pain is stinging and very acute, or if there be little or no pain, as is sometimes the case, we should not delay the removal of the diseased part.

We have seen several cases of the disease, and have by early operation succeeded in their removal. We will briefly notice one case, on each jaw. A lady of the the Eastern Shore, had a slight tumefaction of the upper jaw involving two or three of the fore teeth—the teeth were loose, the gums so spongy, and the bone so much affected, that a probe could be passed through between the roots of the teeth. Upon cutting down the bone was found diseased—the teeth were removed, and the affected portion of the jaw bone sawed out—the removal of every vestige of the unsound part was carefully effected. We had the satisfaction of succeeding completely in curing our patient, who, doubtless in a few months more, would have fallen a victim to this dreadful disease.

In another case a small fungus sprouted from between two of the teeth, in the inferior jaw; it was cut away, as I was in-

formed, by a very respectable dentist, but seemed only to be hastened in its growth, by being meddled with. We were consulted and were under the necessity of removing a tooth, and cutting away not only the tumour, which did not exceed the size of a cherry, but also a portion of the sound gum.—Still we saw, after three or four days, a disposition to return of the fungus; we now commenced the free and daily application of lunar caustic—by persisting in this course about two or three weeks, (we indite this case from memory) we succeeded completely in ridding the patient of the impending danger.

In a word then, we wish to impress deeply on the minds of the profession, that fungus tumours of the jaws often have their rise in a mere point; and are then quite managable, not easily mistaken, if carefully watched for a few weeks. If there be doubts, cut away a little of the swelling, and you will speedily have a fungus surface. And be it especially known, that this is a disease of the periosteum or bone; at least generally, and can only be removed by carrying our incision to the bone, and carefully scraping off the periosteum; and looking well to the state of the bone.—The bone will sometimes be found involved, at an early period; sometimes it is the root of the tooth merely, in which case extracting the tooth may succeed; but, oftener the alveolar plates of bone are diseased and must be removed together with whatever is unsound.

If the disease proceed from the cave of the cheek, or from among the spongy bones; or if it has been neglected till you find the vascular structures around diseased, trust to nothing but tying the artery and removing the affected parts to the bone. If the bone be diseased it must be cut away if reasonably practicable; or when very large, and great extent of surface is engaged, after tying the carotid, cut off the mass of the disease merely, and pursue the roots of the disease with the caustic. We must be influenced in our more or less extended efforts, at removing the roots of the disease, by the state of the patient as relates to his strength.

The employment of the caustic is, unfortunately, sometimes attended with considerable pain, and some patients bear it very unwillingly, or refuse altogether—here it becomes the duty of the surgeon to apprise the patient of the utter hopelessness of the case, under any other treatment, and he may further, with truth, assure them, that, if the disease cannot be cured, the patient must inevitably suffer greater tortures from it in its deadly progress, than from dressings which, though painful, have the advantage of promising restoration. What I would say further is

watch, and act with the spirit and decision of a man. The disease in view is becoming more common, it has slain many, and is now showing forth its horrors in one of the most conspicuous members of our profession, in this city. Whether this affection was remediable at an early period of its progress we will not presume to decide as we did not see the case in its incipient stage, but we would repeat; in a majority of cases under our own observation, the fungus tumour has commenced in a mere point; and in the case of Underwood, we saw the patient and proposed the removal of the diseased mass, nine or ten months before the operation took place—at that time the bones were but slightly, if at all, diseased.

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ART. V. *Observations on Therapeutics*, by SAMUEL K. JENNINGS, M. D. *Professor of Therapeutics and Materia Medica, in Washington Medical College, Baltimore.*

I AM aware that hypothetical speculation, when it occupies the place of facts, observation and experiment, is the bane of science. And yet it is often necessary to reason hypothetically, more especially on subjects admitting of great improvement, for the purposes of arresting attention, eliciting observation and provoking experiment.

Some twenty-five years ago, I was inclined to indulge a conjecture that many, if not all of the substances then considered to be elementary, might still admit of further analysis, and that probably all of them would be subjected to decomposition;—that even light, electricity and caloric, would be subjected to further experiment, and that eventually it might appear, that they sustained a relation to each other, which was then hardly suspected. A learned professor, to whom this conjecture was submitted, rebuked me sharply, and said, such speculations, not being sustained by experiment, could not merit attention. I was not prepared to appreciate the professor's reproof. Philosophers, in Philadelphia and other places, were at that time engaged in making observation on the developement of oxygen, by the agency of light upon certain aquatic plants; and led me to suspect, they were coming to the conclusion, that the oxygen of the atmosphere which is abstracted by the respiration of animals, by combustion, &c. is replaced through the instrumentality of vegetation. I considered the cause utterly inadequate to the effect, and was much inclined to conjecture, that the agency of light upon water, and such other substances as are intended to correspond with light, in the production of their re-

spective results, forms the grand laboratory, for replenishing the atmosphere; not only with oxygen, but also with nitrogen;—indeed with all its ethereal constituents. This in fact, was the object of my intrusion upon the leisure of the distinguished gentleman, and in view of it, as modestly as I could, I ventured to enquire, if he might not, in some way, tax his ingenuity, and institute a course of experiments, which would lead to some useful discovery?

My attention had been arrested by an old work, written with design to prove, that Moses was in possession of the true philosophy. If I rightly understand the book of Genesis, light was created antecedent to the atmosphere or firmament. The Hebrew word which was used in that very sublime expression, "And God said let there be light and there was light," is used by Isaiah, chap. xxxi verse 9, and by Ezekiel, chap. v. verse 2, to signify fire. By the writer of the book of Job, chap. xxxi. verse 26, it is used to signify the Sun. By the same in chap. xxxvii verse 3, it is used to signify the electric fluid or lightning. By Isaiah xlv chap. 16th verse, it is used to signify heat. Then according to these venerable authors, light, electricity and caloric, are modifications of the same principle, whose agency upon chaotic earth, in the beginning, generated the whole volume of atmosphere, called by Moses the firmament, and the agency of which still continued upon the terraqueous globe, maintains its constituent ethers. This authority had weight with me, and I was desirous that an appropriate course of experiments, conducted by an acknowledged philosopher of modern times, should confirm its truth. Such an attempt surely, might have comported with the dignity of a learned Professor. Sir Humphrey Davy would have heard me patiently, and there are many others, who would be gratified even now, to learn, that some competent professor of Chemistry in this country, is on the alert, watching for any incident, which may serve to suggest a probable course of inquiry, promising a developement of a truth so important. We are aware that this subject has engaged the attention of some of the philosophers of Europe, but however brilliant their discoveries, it is still desirable to obtain greater certainty.

I have mentioned this incident as an introductory apology for the speculations which are to follow; not without hope, that it may yet serve to arrest the attention of the profession, and in some way elicit useful discovery. Much of what I have to offer, may for the present, wear the appearance of uncertainty. In the sequel I hope, however, to satisfy the reader, that there is yet room for improvement in physiology, pathology and therapeutics.



There are commensurate ramifications of nerves, corresponding to the most extreme branches of the arteries, throughout every part of the human body, including the vasa vasorum of the arteries themselves; there is a similar correspondence of the nerves and veins. So far then, as organic structure is necessary in the case, I would feel myself sustained in the conjecture, that capillary arterial and venous action, is dependent on the presence and healthful condition of the nerves; and conversely, that the power of the nerves, in maintaining their influence over their associate arteries and veins, in a very considerable degree, depends on the presence and healthful condition of the blood. Every branch of each tissue of the nervous system, in a certain and important degree, is dependent for life and support, on its connexion with its respective sensorial root. In accordance with this view, the cerebrum, the cerebellum, the spinal chord, the ganglions, and according to the opinion of Professor Miller, of the Washington Medical College of Baltimore, the spleen in co-operation with the ganglions, may be considered to occupy the relation of roots, to those branches of nerves which are severally in connexion with them.

I have brought this anatomical or physiological sketch into view, because there is a consideration pertaining to this mutual relation of the nerves and blood vessels, which may be of great importance to the practice of medicine, and which I suspect to have been too much overlooked.

In the vegetable kingdom, it is known, that at the same time that, plants, trees and shrubs are sustained, partly, by the principles which are absorbed by their roots, they are nevertheless as much or more dependent for their support, on the surrounding atmosphere, from which by means of their foliage, they derive their additional supplies. May not the nerves, in like manner, whilst they are dependent to a certain extent on their respective sensorial roots, be as much or more dependent on the circulating blood, for the supply of those ethereal influences which maintain vitality?

The blood, when in a state of perfect preparation, so far as the abdominal viscera are concerned in its elaboration, possesses whatever affinities are necessary, for receiving an appropriate charge of those ethereal influences, which serve to constitute it, arterial blood, and which it actually receives by the steady correspondence with the atmosphere, kept up through the instrumentality of the lungs, in respiration.

The blood when so charged with ethereal influence, at the same time that it conveys the necessary material, for the sup-



port of the solids of the vascular tissues, muscle and bone of the system, supplies also the invisible principles, which sustain the vitality of the whole;—of the sensorium commune, and at the same time also of the extreme branches of nerves, which are constituent parts even to the vasa vasorum, throughout the whole mass. The circulating blood, is the vehicle which carries to the nerves, both to their roots and branches, the support necessary for that principle, which was made to develop itself, at the first, when the Great Creator breathed into man's nostrils the breath of life, and he became a living soul,—that principle, which when viewed abstractedly by physiologists, has been called, excitability, vitality, sensorial power, &c. &c.

It is very probable, however, that the charge of ethereal influence, imparted to the blood, in its passage through the pulmonary vessels, is not sufficient, unaided and alone, to meet the demands of the veins as well as of the arteries, and that the skin in presenting the blood, in correspondence with the atmosphere, performs a functional operation, which is analagous to that of the lungs, and by which, the necessary ethereal influences are replenished, so that the returning blood may maintain the excitability of the capillary veins and lymphatics. The influences supplied by means of the circulation of the blood through the lungs, I consider in a special manner to sustain the animal heat and excitability of the sensorial roots, and of the nerves as branches issuing from those roots, in their more immediate relation to the arterial system. But an additional provision is made by means of the skin, to sustain the excitability of the absorbent system. Perspiration therefore is a discharge of recrementitious matter, produced by a functional operation of the skin, which corresponds with that of the exhalents in the lungs. According to this view if the blood making organs are in perfect condition, and the diet taken in is appropriate, as to quantity and nutritive quality, the ethereal charge given to the blood by the lungs, will be ample, and the circulation full and free, passing readily and in sufficient volume, into the skin; giving a complete expansion to the vessels of the skin, and of course affording sufficient opportunity for the secondary charge of ethereal influence, for the benefit of the absorbents. This state of things, is marked with a florid countenance, distended veins, a free perspiration, and the accompanying sensations of pleasure and hilarity impelling to activity. The arterial action is free, sustaining the sensorium in full vigour, and the action of the veins and lymphatics is sufficient to keep up a corresponding

freedom in the motion of the returning blood. This is perfect health. But if the blood making organs are suddenly brought into a morbid state, the blood will very soon become unfit for the reception of the ethereal charge. The sensorium commune will therefore languish, the circulation will be performed with diminished force, the skin will be imperfectly supplied with blood, the absorbent system will act but partially, and venous congestion will rapidly accumulate in the viscera of the abdomen. The distention produced by this state of things, gives great distress. The countenance is pale and sallow, and in some alarming and malignant cases, the skin will become livid and yellow. Hitherto most instances of this kind have terminated fatally, and some, perhaps, have been lost which might have been saved, if the attention of the profession had been sufficiently directed to the laws of absorption. The condition of the arteries has been carefully watched, and the pulse studied with intense application, but there is yet much to learn in respect to the veins and lymphatics.

Directly inflammatory disease, such as befalls the lungs in pleurisy, and perhaps the brain in phrenitis, is probably the result of a direct injection of those ramifications of the arteries which are concerned in these diseases, and probably are produced by an excess of arterial action. Of course no remedy is so effectual as sufficient blood-letting. And what I wish more particularly to be noticed, blood-letting alone, without any additional or auxiliary practice, will often effect the cure. A reduction of the arterial action, in such cases, is all that is required in order to remove the cause of pain and threatened lesion. But in a case of malignant fever, an alarming distension of the veins, which has been produced in consequence of a failure of absorption, is the morbid affection which is threatening the life of the patient.

Professor Cook of the Transylvania University, is correct in his observations with respect to venous congestion, in the production of bilious fevers. I have long held and taught a similar doctrine, and am pleased to find in him, so able a co-adjutor, in support of an opinion, which will lead to very great improvement in the manner of curing those fevers. And it is much to be desired, that there should be established, a more effectual method than is commonly practised, for the retirement of this venous congestion.

I have seen with much pleasure, a small work published in Savannah, Georgia, by doctor Daniell, who succeeds in some very alarming cases, by an extensive application of sinapisms

over the abdomen, which he continues until considerable ulcerations are made to follow. This practice improves the condition of the skin, and if my conjecture is of any value, it brings into action, a functional process which is of great importance in the treatment of such cases.

Doctor Josiah R. Horne of Edgecomb county N. C. has informed me, that he had succeeded for the three last seasons, relying almost entirely on blood-letting, and such agents as have a tendency to excite the absorbents, particularly on a combination of calomel and opium; and almost excluding the ordinary practice of copious purging. This treatment is considered to be quite consistent with the views under consideration. It is hoped that he will favour us with a report of his future progress. In the mean time, I am inclined to believe, that the profession has been led astray as to the time and manner of applying epipastics and sinapisms, in treating alarming cases of bilious fevers. In the East Indies, the inhabitants are liable to sudden and often fatal attacks of abdominal disease, somewhat like cholera. If the attending physician is sufficiently prompt and energetic, to make an extensive application of nitrous acid, so as to excoriate and of course irritate a large surface of the skin, he saves his patient; otherwise the case is inevitably lost. Here, the violence of the attack forbids calculation as to the day which shall bring up the blistering point. The action of the absorbents must be roused forthwith or nothing effectual can be done. The same principle should be regarded in the cure of bilious fever. But it is thought by very respectable physicians, that blisters or sinapisms, when applied in the commencement of disease, act as additional stimulants, and increase the morbid action. I can only say, that my experience has led me to think differently.

It is true, however that in cases requiring little if any thing more than blood-letting, the application of blisters or rube-facients, before the vein is opened, will make it practicable to take more blood at the first venesection, because the venous action being properly roused, and the absorbents being well in play, a considerable portion of blood, which otherwise would have been longer delayed in the veins of the abdominal viscera, will be hastened on to the vena cava, and thrown into the arterial system. Hence the application of a blister, immediately after the first or second bleeding, in pleurisy, will shortly be followed by return of pain, making another bleeding necessary, sooner than it would have been required, if the blister had been longer elayed. But I am not sure that this is not the bet-

ter practice in some cases. If plethora obtain in the case, the sooner the circulating fluid can be reduced to the natural volume the better, and especially in bilious pleurisies, in which the absorbents will sooner be brought into a proper degree of action, which is important in all such cases.

In most instances of pleurisy, &c. I admit that it will be more convenient to the patient, and perhaps as safe, to deplete the blood vessels as far as it can be done, without leaving absorption too much in the rear, before recourse is had to the use of epispastics. But it should never be forgotten, that a loss of the balance between the arterial and absorbent systems, is an evil which ought by all means to be avoided. Also in many cases of fevers, such as are consequent on venous congestion, moderate blood-lettings, judiciously conducted, in order to tranquillize the arterial action of the capillary vessels with the aid of appropriate cathartics, have been found to afford effectual relief.

But it will be the consummation of the object of my hypothesis, if it should lead to a method of practice, which shall be commensurate to the obvious demands of such cases as are commonly considered malignant;—of such cases, as require excitation simultaneously with evacuation. These are accompanied with great fulness of blood in the abdominal viscera, requiring excitation, of the absorbent system, in order that the blood, which is delayed in the portal and other abdominal veins, may be hastened forward, to be subjected to the functional operations of the liver, or be impelled into the vena cava and so entering into the circulation, admit of a diminution of its volume by blood-letting. In cases of this kind, the first attention of the physician should be turned to the condition of the surface, and of the veins under observation. Sometimes a hotbath should be the first remedy, sometimes friction, with or without the addition of some heating liniment. But in almost every case immediately after the application of a hot bath, or the friction, &c. sinapisms or epispastics, or both, should be extensively applied and continued, until the action of the absorbents is waked up, and there is good reason to believe, that it will effectually reach the abdominal viscera.

When this shall have been accomplished, and not till then, blood-letting, catharsis, &c. may be introduced, in their proper places, as the case may require.

In my next I will attempt a further development of this subject.

## REVIEWS.

*An Essay on the affections supposed to result from the bites of animals, and known by the appellation of Hydrophobia. By J. C. ROUSSEAU, M. D. Member of several learned Societies.*

North American Medical and Surgical Journal.

THE candid medical inquirer must admit, that the subject of hydrophobia is still enveloped in much uncertainty. It is particularly remarkable, of hydrophobia, that the brute kind, the canine race at least, are subject to the disease independently of any infusion of poison by bite, or otherwise. And, yet, it cannot be doubted that the dog, the feline tribe, and, indeed, most quadrupeds are subject to hydrophobia, from the bite of rabid animals. We once held a different opinion, and, having published that opinion, it becomes a duty, now that further observation and reflection have changed our views, that we give some account of our present views.

Having been disqualified some years since, by ill-health, from attending to the practical duties of our profession, we were induced to fill up a necessary void of our professional career, by writing a system of domestic medicine. We have there, in a publication made in 1818, treated of hydrophobia as a state of fever, associated with a modification of tetanus. And attempted to show, that the disease does not arise from infection, but arises spontaneously, in all instances, as we know it does in many, in the canine race. We summed up our reflections in these conclusions.

1st. "The flesh of hogs that were labouring under this disease has been eaten with impunity."

2. "The milk of cows affected with this disease, has been used by whole families without injury."

3. "Hydrophobia has been brought on by many other causes than bites of rabid animals."

4. "A number of rabid animals have been found about the same time in the same neighborhood." This is intended to show that the disease arises spontaneously. "An intelligent old lady of Adams county, Penn. assured me that a great many dogs and other animals, went mad just prior to a very mortal low fever which prevailed in the winter. It is also a fact, within my own

knowledge, that many mad foxes, and dogs were seen in the year 1810, just prior to a mortal fever which prevailed at that time, and subsequently."

5. "There are very few cases of this disease on record, or at least within our reading, of the disease following the bite speedily. On the contrary, weeks and months, and even years of interval are said to have intervened."

"I believe that hydrophobic fever arises from some unknown cause, but something like that which produces malignant fever, and may sometimes assume the epidemic form. I shall explain my views here by a few cases. I prescribed for Alexander Ogle, Esq. of Somerset county, Penn. for a case of dog bite, which was attended with the following circumstances. This dog had been bitten by another, and a horse in Ogle's stable was bitten by his own dog, about the same time he bit his master. The horse went mad and died, as I was informed, at Shippensburg. Now is it not extremely probable, that this other dog who was in the habit of playing about the same yard and stable, as well as the horse, being subjected to the same air, may all have taken the disease from the same source—if it arose spontaneously in the one case why not in both, the biting having probably nothing to do with either case?"

"Upon the whole, I take the hydrophobia to be a most malignant fever, as suggested by doctor Rush—and I think it but a variety of tetanus. We know that tetanus arises from the same causes, and that the symptom of dreading water is not universal in hydrophobic fever. This variety of tetanus, (if I dare so call it,) is principally seated about the throat, while the common form invades a certain set of muscles; but, both are alike, attended with violent disease of the whole system." These are some of the views and conclusions which our experience and reflections presented, up to the year 1818. Subsequent observation has induced us to change our opinion, in some degree. We have seen several cases which were no less well marked, as the result of dog bites, than that of Mr. Nighten which we have detailed in the department of *Collectanea*.

In the North American Medical and Surgical Journal, we have an interesting paper, from doctor Rousseau, on the subject in view, in which the writer admits the fact of hydrophobia occurring some times, as the consequence of dog bite; but alleges that the disease is not owing to any specific poison. This is a subject of high interest, and may be said to furnish one of the *approbria medicorum*; and as we think favourably of the paper just noticed, we shall briefly pass it in review.

Doctor Rousseau tells us, that he has "seen cases, not resulting from a bite, in which hydrophobia was one of the prominent symptoms; which observation is sufficiently confirmed by the testimony of others." And again, "that bites, more commonly of dogs, because of their number, their peculiar habits, and their remaining among men, have, in numerous instances, proved fatal cannot be denied; but that those accidents have resulted from a disease inoculated by a specific virus, generated in the mouth of the animal, under a particular morbid excitement, is merely a supposition, rather disproved than supported by facts, as we hope to be able to prove, as we advance in our inquiry."

"The fact is daily confirmed by experience, that lacerated wounds are oftener than any other attended with danger, and if we pay particular attention to those resulting from bites, we shall find, that of all the injuries of that kind, they are the worst from the compound action, producing not only laceration, but contusion. Moreover, if with these peculiarities we take into account the state of perturbation created in weak and prejudiced minds, by unexpected attacks of infuriated dogs, we cannot but hesitate to sanction the idea of a rabid poison secreted in the mouth of the animal, under a peculiar state of disease. Besides, it cannot be questioned, that the saliva and teeth of a dog in perfect health may, from the putrid and filthy substances on which the animal not unfrequently feeds, acquire and harbour a decided virulence, and become the source of accidents, that have for a long time disturbed the peace of mankind."

We fully concur in the following sentiment—"All the well substantiated facts, indeed, all the anomalies characterizing the maladies supervening upon bites of animals, supposed to be in a rabid condition, concur to prove, that the same symptoms have resulted from the bite of animals labouring under no kind of disease, as well as from various injuries, not admitting the possibility of any introduction of virus being the consequence of the mere mechanical agency of inanimate bodies."

"I am fully convinced, and many sound observers I think will join me in the belief, that the terror propagated from generation to generation, by the popular tales on hydrophobia, has been the cause of more mischief than the pretended rabid poison itself, and that more than a few have become mad from the simple fear of turning mad."

Our author enumerates some of the marvellous tales recorded by medical authorities, among which we have mentioned an interval, of from one day, to forty years, as the period at which

hydrophobia followed the bite of dogs supposed to be rabid. There can be little room to doubt, that if we judged of this matter wholly divested of apprehension, imbibed in common with the vulgar, about the horrors of the disease, &c. we should treat as chimerical tales of there being a poison, which may destroy the human body in one day, after its introduction, or lie dormant seven, ten, twenty, or forty years, and then escaping the confines of pandora's box, set up a disease similar to that of which it was the offspring—here is a generative quality which operates so irregularly, as to time, as to run without any parallel save that of credulity, which has neither length, nor breadth, nor substance, but which has ever surrounded man in ærial visions, which are "lighter than a feather, and less substantial than a dream."

We deem the following facts and observations highly important.

"I shall relate a few cases of those that I have closely observed, neglecting nothing, and sparing no pains, necessary to a complete history of them. They will, I expect, corroborate the opinions that I have supported in this inquiry."

"The following must be fresh in the memory of several of our members; and the noise it made in the newspapers in this country, is hardly yet entirely subsided."

"About the 19th of June 1819, three respectable physicians of this city were attending a lady of Southwark, and, after her death, reported her case as hydrophobia."

"On the 3d of July following, I was called to visit a young lady, eldest daughter of Joseph Barry, capt. of the packet ship *Telegraph*, of this port, also residing in Southwark. She had been severely bitten, on the leg, by the same dog that had caused the death of Miss F. above alluded to."

"One of the three physicians who had attended Miss F. during her illness, had, as I was informed by Mrs. Barry, been consulted on the case of her daughter, and advised the excision of the wounded part. But as I had been the physician of the family for a number of years, she thought proper to postpone the operation, until she could have my opinion."

"The popular excitement was high and general, particularly in the neighbourhood; and the reports were so various that one could not be too cautious in accrediting them."

"I thought it advisable, having already learned from the reports of a number of persons I met on my way, not to act with too much precipitancy, and went out to collect more information."



"I discovered that a little boy residing in the same family with Miss F. who had also been bitten by the same dog, was exhibiting no signs of illness, and that his wound was healing kindly."

"I learnt from him, as well as from the many idle stories of others, that the culprit was a little slut belonging to a Mr. Kane, a tobacconist, residing at the N. E. corner of Second and Christian streets. I went immediately to see him, and was informed that he and his daughter had been likewise bitten by the little creature, of which bites they did not entertain the least apprehension; remarking, with a smile, that she was excusable; for, adds he, she was in a situation that too frequently turns men and women raving mad, and, therefore, I wished her no harm. But the panic was so great among the neighbours, as she had bitten many more men and dogs, that to please them, my daughter (neither of us having the heart to kill the poor animal) carried her, in her apron, to some man, who took her with one hand, and chopped off her head with the other."

"After this, I thought all safe enough in sparing the flesh of the young girl; and for the purpose of calming the public, I immediately published a fair exposition of the facts in *Relph's Gazette*."

"Ten years nearly have elapsed since this alarming occurrence; but neither men or animals that had been bitten by that pretended mad dog have yet shown any signs of derangement."

"It is, however, not amiss to show, that obstinacy can always find some rampart against the attacks of truth. It will, I fear, hardly be believed that on my relating the above and other facts, I was told that by killing the dog, the disease is prevented in those that have been bitten!"

"A small child, about five years of age, was seized with melancholy attended with a drooping countenance, loss of appetite, glaring of the eyes, and tremor of the limbs. Early in the morning of the next day he became very restless, and in a short time so much agitated, that he could not be kept in bed. He refused medicines and drinks, and slabbared considerably, talking incoherently and wildly about cats."

"The cat of the house was looked for, but could not be found. Information was received from the children of the family, that the animal had run away in a fit."

"Madness was the immediate cry. Two of the most accredited physicians were sent for, who pronounced the case an evident case of hydrophobia."

"I was a friend of the family, and happening to pay a visit at that time, was asked to examine the child. He was in a state of extreme agitation, with all the symptoms I have already related. A sweat was running from his face and breast; a violent spasm was remarkable in his neck and throat. He protruded his tongue as if craving something, and exhibited all the symptoms of the greatest agony. I had not yet retired, when the attending physicians returned. They tried to make him swallow some drops; but he raised his hands against the cup, with a roaring noise in his throat, and apparently with great anger and terror."

"Unable to find any mark of a bite or scratch on the child, I took the liberty to observe, that, in the absence of any lesion, the infection from a rabid virus appeared at least doubtful. But the physicians were both of a contrary opinion, alleging that rabies could be contracted in various ways; that numerous cases were on record, by which it was satisfactorily proved, that the mere breath of a rabid animal could communicate the disease. As they were both senior to myself by many years, I bowed respectfully; but before I left the room I asked the liberty of putting my finger into the mouth of the child, to ascertain the state of the fauces, which I found extremely contracted. This was assented to by the gentlemen, who, I dare say, viewed this as an indication of rashness. Death took place the following day, or soon after, for I now relate from memory. I was informed of it, and proposed an examination of the body, which was assented to."

"A quantity of the flowers of the belladonna were found in the stomach, which, as well as the esophagus and fauces, was in a state of great turgescence and inflammation. So much for rabies in this case."

"In the year 1825, a seafaring man, apparently in great distress, called on me for relief. He had, some years previously, been bitten by a dog, and exhibited the mark of the wound on his leg. His sensations were, he said, such as he never felt before. Every thing made him peevish and ill natured: he could not content himself any where, nor could he rest, eat, or drink. His shipmates were continually teasing him about his turning mad; telling him he would be smothered between two mattresses, or shot, and plaguing him with the usual stories connected with such cases."

"It was not long before he was really taken sick, and I was requested to visit him."

"I found him labouring under a most violent attack of tetanus; his looks were so wild that no one dared to come near him, and no one could be persuaded to take care of him, so great was the panic created by the superstitious stories related with reference to his case."

"Having after much trouble convinced some of the by-standers that he could not bite on account of his teeth being violently clenched together, they assisted me in applying large blisters upon all the parts we could get access to;\* then taking advantage of a vacancy between his teeth, I endeavoured to throw in some liquids; but he returned them with violence and anger. Enemas were next resorted to."

"No doubt was entertained by those who visited him that his case was hydrophobia from the bite he had received some years before."

"On the third day of my attendance, the large doses of opium suspended in water, which he had taken by injection, had already relaxed the system. I was then informed by one of his attendants, that a large swelling, attended with great redness, was observable on his right wrist, and that they had learned from one of his visitors, that six months before he had a very sore hand. I examined the part and found that some foreign body could be felt in the wrist, between the tendons. The former wound being completely cicatrized, I laid it open and found a splinter of wood more than two inches in length, and three-eighths of an inch thick. The tetanic symptoms continued however for some time; but the continuance of large doses of opium, amounting sometimes to thirty-six grains, in twenty-four hours, produced at last a relaxation."

"Had death, in this instance, taken place without the discovery of the cause of the disease, it would have been considered as an indubitable case of rabies."

"Such was the dread left on the mind of this patient, that, on my meeting him some years afterwards in the street, and speaking of his past illness, he was seized with a general tremor, and angrily declared that he believed that if I spoke again of his disease, he would be thrown again into a fit of locked jaw!"

"William Wildy, upwards of eight years ago, had been bitten on the middle finger of the left hand by a dog that, after having bitten several dogs in the country about Bristol, had been pursued and killed as a mad dog. All his friends advised him to have his finger amputated, and he applied to me to per-

\* This is quite too vague an expression. Ed.

form the operation. All my representations to the contrary produced very little effect to make him alter his determination. Having, however, ascertained that he was unwilling to trust any one else to perform the operation, I persuaded him to wait. Fear had already created symptoms of an impending hydrophobia. He felt a contraction of the fauces, and experienced some difficulty in swallowing his saliva. I persuaded him, at last, that his indisposition was owing to fatigue and uneasiness of mind, dressed his finger, and supplied him with some opiates, and thus saved him from madness and the loss of his limb."

This narrative of cases is highly interesting, and, did we deem it necessary, we could produce several cases which came under our notice, in this city, of bites from dogs supposed to have been rabid, in none of which was any thing done excepting very long washing, of the part bitten, with soap and water—continuing the washing pretty constantly for several hours; and in one case directing the application of cupping glasses to the wound; in two or three others, keeping open the wound, by repeated blistering plasters. And we feel the fullest assurance, from our own observation, that this if advised and properly enforced upon the mind of the patient as sufficient, will afford all the security to be obtained from any remedies whatever.

It would be wholly unnecessary to cite cases of hydrophobia for the medical reader, which occurred in persons subjected to the inoculation of the rabid poison, after cutting out the part; the use of caustic, and all the internal remedies, extending alike to the most potent, and the most inert articles of the *materia medica*.

Doctor Rousseau, in his observations, tells us that "hydrophobia is not uncommon in hysteria. The abuse of mercury has not unfrequently been the cause of it."

"I have not, I hope, led any one to suppose that hydrophobia cannot result from the bite of dogs. My arguments are simply intended to combat the erroneous idea of a rabid virus, and to allay the terror generally entertained of mad dogs, for, if I do not believe the accidents that have been witnessed, to be the result of a specific venom, I have powerful reasons to acknowledge that the bite of dogs, either sick or well, is not unfrequently attended with extreme danger, and ought to be avoided with the utmost caution."

It is believed that few or no persons acquainted with the subject will doubt the truth of the following remarks; "whether hydrophobia be the result of a specific virus or not, it is under every shape one of the most formidable diseases that we have

to encounter, and the dread of it being one of its prominent features, our attention should be directed, not only to the disease, but to every thing else that may from prejudice or otherwise, have a deleterious tendency."

Doctor Rousseau considers opium one of the best remedies, in the treatment of hydrophobia; but to be useful it must be given with great freedom. We are told that thirty-six grains a-day were given, several days in succession, with good effect. If we are right in the conjecture, which we advanced in 1818, that hydrophobia is but a modification of tetanus, we readily see why opium has been attended with such salutary effects in the former disease. Our own experience satisfies us that the most powerful agent in the treatment of tetanus is opium; and we are convinced, it has often failed because it was given too late in the disease, or in too small doses.

Our experience accords with the following, "the asthenic practice has never been crowned with success (in hydrophobia); nor does it seem calculated to do much good." But we are much inclined to believe, that doctor Mease of Philadelphia, is nearly correct, if not quite so, when he says that hydrophobia *has never been cured*. Doctor Rousseau continues—"if it were possible to foresee the intensity of symptoms before they are established, depletion might perhaps guard against them, but too many circumstances forbid such an expectation; and when we are called to see a patient, it is mostly too late to resort to it."

These observations would seem to apply more fitly to tetanus than to hydrophobia; so far as our experience extends. For our own part, we look with as much incredulity upon reputed agents for the cure of hydrophobia, as we do upon those false notions of the cause of the disease, of which so much has been said, in all ages; because, we know almost nothing, if any thing at all, of such remedies.

The author before us speaks of the "extremely beneficial" effects of opium when given in large doses—but it does not appear by the report of his experience, that he used it in cases of real hydrophobia, but in tetanus. If we are right, it has been in those cases of tetanus which have been either reputed to be hydrophobia, or most resembled it, that opium has been found particularly useful.

We fully concur in the opinion of doctor Rousseau, that the antiphlogist practice is seldom admissible in hydrophobia; and our experience leads us to form the same opinion respecting the treatment of tetanus, though, perhaps, in the latter, we shall find

exceptions. We believe, however, that, even here, it is only in the incipient stage of the disease, that blood letting and other depletory measures are sometimes found beneficial. We have seen a good deal of tetanus; and cannot be mistaken in the opinion which we have drawn, from our own observation, that we have almost uniformly seen blood letting either useless, or hurtful.

We are aware of the fact of different respectable authorities telling us, that the cerebral structures, and particularly the spinal column, have been found on dissection affected with the usual signs of inflammation. But, still, careful clinical observation leads to the positive rejection of blood letting, as a remedy in tetanus; excepting under very peculiar circumstances. It is true, that, this is one of the most fatal of diseases, under every plan of treatment; but, opium, and external irritants, have oftener succeeded than any other remedies—among the latter caustic, in the course of the spine; or extensive blistering, seem to have been most useful.

It being more our intention to awaken attention to this important subject, than to treat of its therapia, we shall close our remarks by giving as our opinion, that whatever be the cause of hydrophobia, in the human subject, it is a modification of tetanus. It will follow, as a matter of course, that if we adopt this opinion, we will with slight modification adopt the treatment proper in tetanus, as our means, in the treatment of hydrophobia.

We cannot admit the notion of a specific virus as the cause of hydrophobia; but there is no clear objection to the opinion of doctor Rousseau, that the teeth of the dog may sometimes convey into a bite poisonous matter, accidentally lodged in the teeth. After all, this subject, as we stated in our outset, is beset with much confusion and uncertainty; and whether we ascribe the disease which occurs months or years after the bite, to the simple wound, to some accidental poison, to a spontaneous origin, or to terror, &c. the humbling facts still stare us in the face, that, we seem to have little influence in preventing, and none at all in the cure of hydrophobia.

As matters now stand, we cannot take too much pains to quiet alarm; nor be too particular in washing the wound, for hours in soap and water—added to which we would draw the part with cupping glasses, where they can be applied; or blisters—we would, however, by no means, wish to be understood as objecting to any other rational means.

*Experiments, and observation on the warm bath, presented in "an inaugural dissertation," to the Trustees, and Medical Faculty, of the University of Pennsylvania; by HENRY WILSON LOCKETTE, of Virginia, in the year 1801.*

**F**EW subjects connected with medical knowledge require a greater share of our attention than the warm bath. Whether we direct our inquiries to its employment as a luxury, prophylactic or therapeutic, we most readily perceive the important place which it has held in the estimation of mankind. Led, as we have been by the importance of this subject, to awaken the attention of our readers, we have derived great pleasure from the circumstance of having it in our power to present to their notice, the inaugural thesis of doctor Lockette. In this gentleman's essay, we have a perspicuous view of the subject generally, together with a suit of experiments which seem to have been conducted with care and patience, and lead to very important conclusions.

Our author has very properly divided his inquiries into the effects of the warm bath "on the human body in health—its prophylactic properties—and its medical properties."

The doctor in good health immediately after breakfast went into a bath at 98° of Farenheit, in a room at the temperature of 67°, pulse then beating 80 strokes in a minute. In one minute the pulse rose six beats—remaining in the bath 19 minutes, the pulse fell to 70 beats. The water during the experiment did not vary more than "two degrees." After leaving the water and dressing, the pulse beat 77 strokes per minute, giving thus an increase of 10 degrees from the stimulus of the warm water. Notwithstanding the reasonableness of the circumstance of increased vascular action from the warm bath, we almost daily see the warm bath used in fever by nurses and patients, and even by the profession, without regard to this important fact.

In the second experiment, the doctor being in health, his pulse beating 77, temperature of his room 64, put his feet into water at 110°. In three minutes his pulse rose, and in 32 minutes it increased per minute fifteen beats. At this time the water had sunk to 101°. The experimenter had "a small pain in his head." This serves to show us by direct experiment, a mode of inquiry too often neglected, that the partial warm bath is capable of doing much good or harm as it shall be directed.

In a third experiment a person was put into a water bath at the temperature of 107°, room at 68°—pulse 68. In one

minute the pulse rose to  $105^{\circ}$  an increase of  $37^{\circ}$ —in 15 minutes it had risen  $10^{\circ}$  more. The bath could scarcely be borne; the skin became red; the person became drowsy—The bath was however borne till perspiration coming to his relief, he found his situation bearable. Little judgment or common sense is requisite to enable us to perceive how injurious must be the influence of a bath a little too hot, in cases of fever, and yet mothers and nurses in general, consider a warm bath a very simple thing under all circumstances, and often employ it to the great danger or injury of children labouring under cerebral excitement.

Doctor Lockette went into a bath intending to increase it as far as it could be borne. After passing through several degrees of temperature, in all which the circumstances and results corresponded with the foregoing experiments; till he raised the temperature of the water to  $111^{\circ}$ , "when *his pulse* rose in three minutes to 153." The heat was now insupportable—It produced "confusion of thought, partial delirium, tinnitus aurium, an inability to speak, dimness of sight, an intolerable pain in my head, with a most painful desire to make water. My sensations were precisely such as they are, in a violent state of fever." "In about a quarter of an hour as I am informed, (for I was too much affected by the experiment to observe it myself) a few ounces of blood were taken from my arm, which exhibited the following appearances. It was highly oxygenated, and did not coagulate, though there was on the top a thick tough inflammatory scum of a somewhat bluish colour—in fact it exhibited all the appearances of dissolved blood, to those who saw it." These experiments were considerably extended and diversified, but the results being in no essential degree different from those we have cited, we deem further examination unnecessary.

Our author next proceeds to report his experiments upon the steam bath. "My pulse beating 80 strokes in a minute, and the temperature of the room  $70^{\circ}$ , I shut myself up in a machine made for the purpose of containing vapour, into which the steam was conducted by means of a tea kettle and tube." The first observation at the end of five minutes, discovered the heat to be  $85^{\circ}$  and the pulsations 87. These observations followed out till the end of one hour, the temperature was found at  $111^{\circ}$ , and the pulsations at 130 per minute. There was fulness of the head felt, but no pains—respiration was somewhat hurried—some disposition to sleep. In a second experiment, the doctor raised the temperature of his enclosure to  $120^{\circ}$  and found his pulse to be 132. An experiment made with the steam of vinegar produced correspondent results with the vapour of water.



Experiments were also made with spirituous liquids, but the apparatus seems to have been imperfect—the results given we may presume in the main to be correct, that is, the enclosure was less heated, and consequently the body.

We do not offer these experiments as containing any thing new, but because this is, as we believe, a neglected subject, and yet a very important one. We feel particular pleasure in presenting the laudable industry and zeal which this young gentleman manifested in his unpleasant and, perhaps, in some degree, dangerous experiments. And without presuming to deride, we would seriously ask the medical reader how many of the profession carry about with them ready for emergencies, clear notions of the facts set forth in the foregoing experiments.

If the human body in a state of health is thus disturbed and threatened with ruin, by making the bath a little too hot, what shall we say to that careless habit, which we believe prevails, of directing nurses to employ the warm bath in the diseases of children, without directing the heat to be measured. We would lay it down as an invariable rule of practice, never to trust any other than our own senses, or those of a sensible student, or otherwise direct the amount of heat to be regulated by the thermometer.

The foregoing remarks and experiments relate mainly to the effects of the warm bath upon the body, in a state of health. In taking a brief survey of the prophylactic influence of the water bath, we shall allow our author to speak for himself. "As there is not a more simple application than the warm bath, in some shape or other, so I believe there is none more efficacious; yet if proper precautions be not taken, it may be productive of much injury. The custom of using the warm pediluvium indiscriminately, promises on the whole to do but little good. It is highly necessary to be inquired into and determined, at what time, and under what circumstances, it may be recommended with propriety and the greatest prospect of success."—"The warm bath may be applied to the feet or whole body, in the debility which more or less precedes every state of fever, when it acts like a charm by gently stimulating the system to take on its healthy action, and thereby prevent the formation of a disease; whereas a more powerful stimulus being applied, might destroy that just equilibrium which is so necessary to health."—"If the physician could be called at the time when there only existed that state of the system which is denominated *predisposition*, all that would be requisite to be done,

would be to bathe the patient's feet in warm water. On the contrary, if we wait till the accession of the fever, we not only do not relieve the patient, but increase his symptoms, producing delirium, great anxiety, difficult respiration, and in some cases, even death." What is here stated in relation to the injurious effects of a warm bath applied in the state of fever, no one can doubt, and we are fully of the opinion, that it will often happen that cases of threatened fever and other inflammatory diseases may be cut short, rendered slight, or wholly interrupted by the timely application of the warm bath. In support of the truth of this opinion we will briefly relate a case. An infant about one year old, healthy, though delicate, was improperly exposed to the cool air of a cold spring evening, for two hours or more, during the absence of the mother. When the parent returned, the child was labouring under the most alarming symptoms of croup. On my arrival at the house, I found the child's respiration extremely labouring, the chest heaving greatly, the eyes turned up and stupid, the pulse so feeble as to render it impossible to count it—the whole surface cold as death—cold sweat on the forehead. In short, such was the violence of the symptoms that I was fearful the child could not survive the night. It was immediately immersed in the warm bath, made pretty warm, but taking care not to incur the risk of over stimulation. Warm drinks were given.—It was obvious in a few minutes, that the respiration was relieved, and by continuing the bath perhaps twenty minutes, the amendment was so obvious as to render its longer continuance unnecessary. An emetic was now given, and in two hours the disease had nearly disappeared, the child lay most of the night in a tolerable sleep, and had but a moderate interruption of respiration. No active medicine, except a dose or two of calomel, and a little oil was afterwards necessary.

Our author does not, in that department of his essay in which he speaks of the application of the bath, as a prophylactic, extend his observations to its preventive properties, in relation to those in health. We find him, however, alluding to this part of the subject, in his concluding reflections. We are well aware of the importance of prevention, and duly appreciate that heaven-born principle by which our profession have been actuated, in all ages of the world, in striving to discover, and remove the causes of disease; but as the warm bath is a matter which has been pretty much in the hands of the more intelligent of all nations, from time immemorial, we do not deem it necessary to extend our remarks. The warm bath has been employed to such an extent

of luxuriousness, by the earlier nations of the east, as to lead to effeminacy of body and mind; and led into temptation the more hardy sons of Greece and Rome, till the latter, amid their corruptions and degenerating follies, unstrung the once sinewy Roman muscle, and unnerved the arm by adding the vice of excessive laving in hot water.

In a word, it is our opinion that the warm bath to be salutary must be used sparingly. Its frequent employment while the body is in a state of health must tend to undue excitement. It should never be long indulged in, since it is obvious that the bath in a state of health, must be more useful by its cleansing qualities, than by any change of action it may produce. It is, in all circumstances, a sound maxim, that they that are whole need no physician, but they that are sick. In warm weather the use of the warm bath for a few minutes, with a view of effectually cleansing the skin must be highly salutary; beyond this it cannot contribute to a state of health. There are, however, occasional slight aberrations from health in the valetudinary, and sometimes in others, in which a bath moderately warm, may be very beneficial.

We shall now follow our author into the division of his subject, in which he speaks of the bath, in its medical bearings. "The warm bath has been recommended in a variety of diseases, and I have no doubt adopted with advantage in many; yet I believe it has been used with great detriment to the patient, and sometimes even with fatal consequences, all originating from inattention." "The bath promises to be of service in all states of fever, of feeble morbid action, or which are denominated atonic diseases." Doctor Lockette next points out some of the diseases in which the warm bath has been, supposed to have been, more especially beneficial. Among these he notices mania, melancholy, hyponchondriasis, hysteria, tetanus, syncope, typhus, paralysis, sick headach, rheumatism, scurvy, nephritis, leprosy. We readily subscribe to the belief, that the warm bath may be used to advantage in all the above diseases, except the state of syncope. We cannot suppose any case of syncope which would call for the use of this remedy, excepting partial hot baths, as a stimulant. Cases of syncope no doubt occur, in which hot water may be applied to the feet, or over the stomach with good effect.

We do not deem it necessary to follow doctor Lockette through his views relating to the various diseases which we have noticed above; it may suffice to say, that, whatever be the disease, we can only apply the bath with propriety in the ab-

sence of fever. It may be applied beneficially in the forming state of typhus fever, and sometimes in other fevers—its employment, however, always, demands great care in congested states of fever. It is only in the quite incipient stage of inflammatory diseases that it ought to be applied.

The philosophical physician can never be at a loss to know in what states of the system the warm bath is proper, but to know at all times, whether the suitable condition be present, is a matter requiring no inconsiderable share of skill. This is not more the case in the employment of the warm bath than in the use of other remedies—it would be wrong to suppose it was in any degree less. The warm bath being more or less stimulant, in its influence upon the human body, it is obvious that we must, in all diseases, use it with a view to its stimulant effects; or at least, we must be assured that the increase of excitement which it will produce temporarily can be borne, by the patient without danger.

We differ in some degree from our author, in the opinion which he expresses, that unless the bath be above 95 degrees it can do no good. On the contrary, we believe that in many cases, where the water bath at this temperature, or even a little below it, might be highly salutary, would prove prejudicial if made a little hotter. We should bear in mind, that the human body as it stands related to the water, in which it is immersed, will bear no other relation than that which exists between all bodies. That is, there will be a portion of heat transmitted to the water, or withdrawn from it in that proportion in which the water, and the body, shall differ from each other, in their temperatures. It will follow then that in cases where the heat of the body is much reduced, water at a given temperature, say 95° will produce a greater effect on the living functions than a greater heat of the water on the body, at a higher temperature. Chemically speaking this is not the case, as, the increase of temperature relatively, may be greater when the water is a few degrees cooler, and the body many degrees cooler, than natural, but the sensibilities may be equally, and sometimes more affected, in such circumstances, than where the water is hotter, and the body hotter.

Besides, we must not lose sight of the fact that we use the warm bath medicinally, more with a view to equalizing excitement, than with a view to its action as a mere stimulant. Our author seems to have lost sight of this important circumstance. Thus, in the incipient stage of congestive typhus fever, we have the blood locked in the viscera; the extremities totally, or partially,

much reduced in their circulation—we apply the warm bath, with the intention of equalizing the excitement, and this we believe to be the intention, and the state of things in general, in our employment of the bath.

We must not forget that the sensibilities are so far from being blunted in all cases of reduced temperature of the skin, that on the contrary there is some times a morbid acuteness of sensibility. This suggests the necessity of using warm water with due caution—and that it will often be necessary to commence the immersion in water moderately heated, say about 90°, and gradually increase it if necessary, to any desired temperature. We think that in most cases, a few degrees of difference will not be a matter of moment, but there are critical moments when it is absolutely necessary, that the warm bath be graduated to suit the circumstances present, with all possible precision; and can only be justly regulated by the experienced physician. The issues of life and death often hang upon this point, and cases occur where patients are lost by trusting this matter, supposed to be so simple, to nurses, instead of the physician staying to regulate the bath himself. We have often done essential service, we think, by careful attention to this circumstance, and remaining, in violent cases, to see the application, and the effects of a warm bath.

Doctor Lockette calls our attention to the violent practice, among the Russians, and the North American Indians, of using extremely hot baths; and of the latter treating some of the acute diseases by exposing their bodies, about half an hour, to a hot steam bath, and then jumping into cold river water. Violent as is this treatment, it has been tested, and used with advantage in modern practice, in cases of mania, and sometimes with the most marked advantage: It is a remedy, calling however, for great caution. Should there be visceral congestion, we should suppose great danger might arise from the violence of exposing a frail system, labouring under fixed unequal excitement, to extreme cold while extremely hot.

There are cases reported, of death arising from the use of the cold bath, while the body was heated; and we believe many cases of tetanus have been suddenly terminated in death; by the application of the cold bath. We saw one case in which almost instant death succeeded its use, and under circumstances in which there were no symptoms portending dissolution for a day or two, though the case was a violent one, brought on by a small wound of the foot in a fine healthy boy.

*Operation for Paralysis from Fracture of the Spine.*

In the North American Medical and Surgical Journal, there is related a very interesting case of operation upon the bones of the spine, by Alban G. Smith M. D. Danville, Kentucky. The editors of that Journal having expressed a hope that a more full and satisfactory account of this case will be received in a short time, we do not deem it proper to detain the reader with any thing more than a brief statement of the facts connected with the case.

The operation was performed nearly two years after the injury had been received. The patient having fallen from a horse, became paralytic in all his limbs, excepting the muscles of the upper arm. An external examination enabled the surgeon to discover some derangement of a portion of the lower dorsal vertebræ. Doctor Dudley cut down and ascertained this to be the fact, but did not proceed further. Two years afterwards, the patient became extremely anxious to be operated on, in which he was gratified by doctor Smith,—from the doctor we have the following account of the operation.

"I made an incision four or five inches in length, along the spinal ridge; and, then two deep incisions transversely to, and at each extremity of the former, and three inches and a quarter in length, all down to the bone. I then dissected all the muscles and ligaments as far as the transverse processes, and scraped the bone clean. The situation of the parts was found as doctor Dudley had described them; the fragments being pressed to one side, but so completely united, and so smooth on the upper surface that the line of separation was not very well marked. I next took a small Hey's saw and made an incision on both sides, as near to the base of the transverse processes as I could, as deep as I could with safety to the spinal marrow and the nerves, going off at the sides, and long enough to cut through the bone above, about half way, which was the third dorsal vertebræ. I then sawed off the end of the transverse processes of the second, and into the transverse process of the third, about half its base. Then taking a very strong tooth forceps, with its end turned on one side, and getting a claw in each incision made by the saw, I was enabled to break up the external plate, and part of the internal; so that I could now, with a small strong pair of pliers or forceps, break, by a small

piece at a time, the whole of the bone that I had cut round with the saw. Here the anatomist will see the difficulty with which I had to contend; as the parts are so firmly and securely tied down with ligaments. Thus it will be seen that I took out a part of the spinous processes of two vertebræ, half of the third, and the whole of the fourth; the fourth being the bone which seemed to be most depressed. I now brought the parts together, putting a tent at the bottom; and put him to bed. He had a chill, succeeded by fever, and some bilious symptoms which were carried off by a dose of calomel."

The account goes on to state that ulcers, which existed on the nates from lying, and the reduced vitality of the parts, soon assumed a healthy aspect. The feeling in the extremities gradually improved—"the pain of returning feeling is so great that he complains very much. It is something like the sensation experienced when one's leg is asleep, as it is vulgarly expressed. His general health is good; and I have but little doubt of his being entirely restored to the use of his muscles." It is also said that subsequent accounts from doctor Smith announce a continuance of improvement.

As this case stands pretty much alone, we shall defer any further remarks upon the subject of fracture of the spine, until we shall have heard of the issue of the foregoing case. For the present, we would admit the decision of doctor Smith with great caution. He says, "should I ever be called to a case of the kind again, I would advise an immediate operation."

We think it extremely doubtful whether this patient would have survived an operation at the time of his illness from the injury—and we much question whether it will ever be warrantable, or good surgery, to apply the saw to the vertebræ. As a general rule, we would, with our present views, defer the operation till the system shows its ability to survive the shock. We believe that cases requiring operation from urgency of first symptoms, will always prove fatal.

## SELECTA WITH REMARKS.

## MEDICAL.

1. *Hydrophobia*. The following case of hydrophobia was admitted into the Baltimore Hospital, some years since. The notes of this case have been preserved on a loose sheet of paper, and the year omitted. Mr. Nighten, from a neighbouring county, informed us, that on Tuesday 20th of July, he returned home after an absence of two or three days, and was met by a favourite dog, in his usual fondling manner. A few minutes afterwards, he had occasion to go somewhat hastily through the yard to the barn. His dog now met him a second time; but feeling no disposition to notice the dog, at that time, he attempted to drive him off, with a small switch. The dog suddenly took hold of his left hand, and tore it considerably, a little above the pisiform bone of the wrist; and before the animal could be beaten off, he bit Mr. Nighten in both hands, in several places, in the wrist, arm, and leg. Having speedily inflicted upwards of twenty wounds, he ran under the house.

Medical aid was called in the same night—common salt was put into the wounds freely; and the patient put upon the use of mercury. Mr. Nighten reached the hospital on the fourth day after the accident, at which time his mouth was already somewhat affected with the mercury. His hands were extremely painful, this, together with his great anxiety of mind, had prevented him almost wholly from obtaining any sleep. Fomentations of bitter herbs, in hot water, were applied, and emollient poultices frequently repeated. The mercury was continued, and anodynes used pro re nata. On the seventh day, the patient complained of unusual feelings about the back, which he termed twitches. On the eighth day, he stated that he had been suffering extreme pain in his hands; and particularly just then. Several times through the day he had slight cramps at the stomach. His anxiety is still peculiarly great, his countenance shows the deepest distress—face very pale; pulse natural. Advised the poultices to be discontinued, and use a liniment made of ol. olivar. ℥iv. sp. terebinth, ℥j—this to be applied freely to the sores spread on pledgets of lint. This afforded immediate relief, and was continued—mercury continued.

On the 31st of the month, eleven days after the accident, the patient is improving in his appearance, and no unpleasant symptoms have occurred. Some of the smaller wounds have become dry—anxiety of mind still great. Directed the mercury to be continued notwithstanding that there is considerable ptialism, and the mouth very painful. Advised powdered savin to be carefully introduced into the wounds.

Fourteenth day, the sores are assuming a healthy aspect—the more severe wounds still somewhat painful. He complains a good deal of what he call twitches, which extend from the wounds of his hands up his arms—he has these sensations in his legs also. Has continued the mercury, and the liniment and savin to the wounds.

Mr. Nighten left the hospital about this time, but not having seen him at the time of his leaving the house, I am not able to state his condition at the time. But we were informed, in a short time after he left the hospital, perhaps a week or two afterwards, that he was overtaken with hydrophobia, and died after suffering all the horrors of that disease. The reader



will have remarked here the prompt effect of the mercury, and the distressing fact, that the continued influence of this medicine did not ward off the fatal blow.

2. *Inoculation for hydrophobia.* M. M. Vatel and Girard, at the veterinary school of Alfort, inoculated a horse, two dogs, and three sheep, with the saliva of a sheep which gave symptoms of madness after having been bitten by a rabid dog. Not the least indisposition resulted from the inoculation, although the animal from which the saliva was taken died soon afterwards.—*Journal des Progres.*

The above report taken from the North American Journal of the Medical and Surgical Sciences, accords with our views of hydrophobic poison. In our department of reviews will be found some interesting observations by doctor Rousseau. Ed.

3. *Hydrophobia.*—In Rust's Mag. f. die gesamt. heilk. Vol. XXVIII. No. 3, 1829, two cases of hydrophobia are related by Dr. Fucks, with the morbid appearances discovered after death. The leading symptoms of the disease in both were the same, very nearly, as those which occurred in almost all the cases upon record; it is unnecessary therefore, to enter into their detail. The first case occurred in a lad fifteen years old. On the 4th of October 1825, he was bitten by a cat on the back of his hand. The cat was destroyed, though it did not appear to be affected with rabies. Upon the 17th of November following, the peculiar symptoms of hydrophobia presented themselves. Immediately subsequent to the bite, the wound had been treated with caustic, and well sprinkled with powdered cantharides: mercurial ointment was rubbed into the fore arm, and four grains of belladonna administered internally. The patient died on the morning of the 19th of November. *Sectio Cadaveris*, twelve hours after death. The only morbid appearance discovered in the brain, was a slight softening of its substance: its membranes were not inflamed, nor was there any trace of exudation. The spinal cord, from the medulla oblongata to the cauda equina, was covered with a layer of coagulated lymph. Its dura mater was in a state of inflammation, being at its lower part of a deep scarlet colour. This was also the case about the roots of the nerves distributed to the muscles of the trunk and extremities. On cutting into the substance of the spinal marrow, it was found in a state of complete softening, flowing before the knife like a soft pap: in this softened substance no bloody points were discoverable. The viscera of the thorax were healthy, with the exception of a considerable engorgement of the inferior lobes of the lungs. The bronchiz were free from disease. On examining the tongue, there were found upon its upper surface, near its root, from forty to fifty small brownish elevations, regularly arranged on each side, and having nearly the size and appearance of the projections upon the surface of the tooth. They were covered with a thick tough membrane, and very generally presented in their centre a small black point. By a more careful examination it was found that each projection was a vesicle, containing a fluid resembling lymph, and not the natural papillæ of the tongue enlarged by disease. The tongue was otherwise unaffected. In the pharynx no traces of disease. Salivary glands not swollen. The viscera of the abdomen of a natural appearance.

The second case occurred in a girl ten years old. On the 22d of November, 1825, she had been bitten by a dog, upon the right arm and eyelids. Blisters were immediately applied over the wounds of the latter, while that of the arm was cauterized and kept in a state of free suppuration for

eight weeks. After this, four grains of belladonna were administered daily. The symptoms of hydrophobia commenced on the 14th of May 1826. The treatment consisted principally of the ext. belladon. internally, and externally blisters over the right eye, and to the right arm, and friction, with mercurial ointment upon the lower jaw, the arms and thighs. The patient died on the 16th of May. *Sectio Cadaveris*, twenty-four hours after death. The entire extent of the spinal cord being laid bare, on its external surface, but few traces of inflammation were perceptible. The pia mater was covered with striæ of a deep red colour. The spinal marrow itself was reduced entirely to a soft pulp, which flowed out upon the slightest pressure. No points of blood perceptible. The brain was somewhat softer than natural. An incision being made into it, the cut surface of both the cortical and medullary portions appeared thickly studded with small bloody points. Its veins were moderately filled with blood. As in the former case, the posterior part of the surface of the tongue was beset with numerous vesicles; but irregularly dispersed, of a bluish-red colour, and without the black point in the centre. They were of different sizes, from that of a pea downwards, mostly in contact, not surrounded by any redness, and containing a thickish fluid which did not escape on their being opened, but in part adhered to the knife. These vesicles gradually diminished, until about the middle of the tongue, when they were entirely wanting. Slight traces of inflammation were perceptible upon the pharynx. The remaining viscera of the body were in their normal condition.

In the London Medical and Physical Journal, for February, 1829, we have likewise a case of hydrophobia, related by Mr. Goodrich. This occurred in a man about sixty years of age, who had been bitten by a dog on the left arm and hand, about a month previously to the occurrence of the disease. The treatment consisted of tolerably free venesection, and the administration of the hydrocyanic acid. Death occurred in about twenty-seven hours. On examining the body, the heart was found free from disease, with rather more water in the pericardium than natural. The lungs were completely gorged with grumous blood, and the pleura adhered on the right side. On removing the cranium, which was remarkably thin, and cutting into the substance of the brain, the medullary portion appeared thickly studded with red points. There was about a table spoonful of water in each ventricle. The plexus choroides was turgid; the corpora striata, thalami, and basis of the brain preternaturally injected. The cerebellum, crura cerebri, et cerebelli in a high state of inflammation. Opposite the two last cervical and dorsal vertebrae, the cellular substance was studded with dark patches of coagulated blood, and theca vertebralis thickened. The larynx and pharynx presented not the slightest vestige of disease.

The subject of hydrophobia appears of late to have attracted considerable attention among the profession in Europe. In addition to the cases already detailed, we have in a recent number of the Archives Gen. de Medicine, (December, 1828,) a paper by Mr. Minière, entitled "Recherches Anatomiques et Therapeutiques sur l'Hydrophobie." This gentleman found, as the result of his researches into the morbid anatomy of this disease, that the cerebro-spinal system was injected with blood, and of a red colour, as in some cases of acute meningo-encephalitis. The heart was soft, dilated, and engorged with blood. The aorta was occasionally of a bright red. The lungs were often emphysematous; most commonly, however, they were engorged, but crepitant. The mouth, pharynx, and esophagus almost always presented traces of phlogosis, more or less intense. The same was remarked in the digestive organs. In many subjects the cerebellum was more soft than natural. Of two individuals, in

whom death had been preceded by an erotic spasm with ejaculation of the semen, in the encephalo-rachidian organs of the one, was found no other trace of disease than a red spot, of about three lines in diameter, occupying the centre of the annular protuberance, and resembling an ecchymosis; of the other the cerebro-spinal pia mater was injected, and the cortical substance of the brain much softened. In neither was there any softening of the cerebellum. With respect to the time which elapsed between the bite and the invasion of the disease, this varied in different cases from three weeks to a year. The duration of the confirmed stage of the disease, from the commencement of the spasm of the respiratory organs and the convulsions, with or without furor, was very short, rarely exceeding twenty hours. The period of invasion marked by depression of the spirits, disturbed sleep, frightful dreams, undefinable uneasiness, pains in the back and limbs, cephalalgia, loss of appetite, &c. was in general of some days' duration. *N. A. Med. & Phy. Journ.*

4. *Tetanus*.—A female, forty-four years of age, accustomed to remain for sometime with her legs immersed in water, experienced, October 8th, great difficulty in moving the lower jaw, with a feeling of rigidity of the muscles of the neck, and a stiffness of the limbs. On the 10th she entered the "Hopital d'Udine;" labouring under considerable tetanic contractions of the trunk and limbs, with violent trismus. The latter was greatly relieved by a warm bath. The trunk was bent backwards, the limbs extended and stiff, breathing frequent and stertorous, abdominal muscles but little contracted; bowels costive; urine small in quantity; pulse strong and frequent; skin hot and dry; intellectual faculties not in the least impaired; and sensation perfect in every part of the body. Thirst great, tongue red and dry. The symptoms augmented in intensity until the period of her decease, which took place five days subsequently to the attack. The body was examined twenty-four hours after death. The brain was without disease. In the spinal canal there was found an increased effusion of serum mixed with blood. The arachnoid membrane of the cord presented no alteration. The pia mater gave evidence of an increased action of its vessels having existed: this was more apparent on the anterior than on the posterior aspect of the cord. The medulla spinalis presented, anteriorly, a multitude of granular bodies, in size from a grain of millet to that of a lentil: it was very soft, and seemed entirely formed by the agglomeration of these granular bodies. In colour it was of a light yellow, and on its anterior surface, at different parts small red points were observed. Its posterior half was perfectly healthy. The white substance appeared to be the part in which the greatest alteration had taken place: the grey substance was apparently unaltered. The filaments of the anterior spinal nerves, were, at their origin sensibly diminished in thickness, and of a yellowish colour, very soft and easily lacerated; in the course of several of them, there existed small tumours similar to those on the anterior part of the medulla spinalis. The posterior nerves were unaffected. The cavity of the chest contained a considerable amount of serum; the stomach and intestines exhibited slight traces of inflammation; the kidneys were of a brownish red, and gorged with blood; the bladder was much contracted, and contained but little urine. The above case is related by doctor Foggi. For our account of it, we are indebted to the *London Medical and Physical Journal*, Feb. 1829. It is noticed here principally with the view of showing the similarity of the morbid appearances discovered after death in tetanus and hydrophobia. It proves also the difference in the functions of the spinal nerves: sensation was perfect until death;

the motive power alone being affected. The anterior nerves, those supposed to preside over motion, were alone in a diseased condition; the posterior nerves, or those of sensation, were found to be unaffected. North American Medical and Surgical Journal.

It may be recollected that the appearances here noticed as existing in cases of tetanus, agree with those related by Mr. A. Cooper, and many others. The reader, by turning to our notice of the paper of doctor Rousseau on hydrophobia, in our department of reviews will learn that we, as long since as the year 1818, published our opinion that hydrophobia is a modification of tetanus. Ed.

5. *Case of wound of the head followed by erysipelas.*—William Kelly, a healthy looking young man, received on the 17th of February last, a trifling scalp wound, on the posterior side of the head, by which the pericranium was denuded, but not the bone. He came to the hospital and was seen by Mr. Harrison, the house surgeon, who, finding no symptoms of concussion or compression, dressed the wound slightly, gave him some infusion of senna, and sent him home, with directions to keep quiet. On the 19th he returned with some sharp febrile symptoms, and looking very ill. Mr. Harrison pressed him to enter the hospital, but having some family affairs to settle, he could not come in till the next day, the 20th, when he fell to the care of Mr. Keate.

At this time he complained of much pain in the head, had experienced some rigors, the pulse was full and hard, the tongue white and coated. There was no appearance of redness, tumefaction, or erysipelas about the scalp, but the lips of the wound were asunder. He was bled to eight or ten ounces, and ordered five grains of calomel immediately, and the common house physic in three hours afterwards.

Salines with a dram of the sulph. magnesiz, and fifteen minims of antimonial wine were taken every six hours. In the evening bleeding was repeated, and the blood drawn on both occasions was highly buffed and cupped.

On the 21st erysipelas appeared on the scalp, the pulse was 112, the skin hot, the bowels freely open, the tongue white and furred. *R. Liq. ammon. acet. ℥j. aq. dist. ℥ss. 6 tis horis.*

The erysipelas extended over the forehead, accompanied with an edematous condition of the scalp, particularly on or near the injured spot, and a slight degree of puffiness in the immediate vicinity of the wound. The treatment was continued throughout the 22d, without alteration, but on the 23d, the pulse being quicker and not so full, the skin pretty cool, the tongue moist and coated, the bowels rather purged, the erysipelas spreading on the face, the medicine was changed to half an ounce of liq. ammon. acet. and ten minims of laudanum, in an ounce of camphor mixture. On the 24th the pulse was quick, but devoid of any thing like force; the face was generally swelled, and of dull red colour, the tongue was getting brown in the centre, and coated white at the edge, the mind was inclined to rambling and incoherent, though the patient answered questions very properly. Bark was now given in the form of an ounce of the decoction and half a dram of the tincture, with the liquor ammoniz acetatis as before every six hours.

On the 25th, the erysipelas was scaling on the forehead and face, but still the swelling continued undiminished or nearly undiminished, the brownish red colour of the parts remained, the patient was more light headed, the pulse was lower than it had been yet, the tongue more brown and dry. Since the first few days he has had no rigors, and the puffiness and edema

about the head were less; the bowels had not been opened since the evening of the 24th. *Repetatur decoct. cinch. addendo tinct. ejusdem, ʒss.*

26th. No worse, which in these cases is generally considered as better. The pulse has nothing unfavourable about it—the tongue is dry and rough, and coated in the middle, with a brown fur down to the apex—the face much swollen but scaling—the scalp and the wound much the same. He does not and has not for several days, complained of any headach; has had no rigor nor vomiting, and answers questions rationally enough. The parts had been treated with cold lotions, but to day a linen mask smeared with erysipelas ointment is substituted for them. He is obliged to be kept in a straight waistcoat, not on account of his being furious or delirious, but in order to prevent his pulling the rags off his face, which he constantly does. The bowels had not yet been opened. Mr. Harrison ordered some house medicine, which soon produced an evacuation from his bowels, and on the 27th the patient was remarkably improved. The tongue had become moist, and was much cleaner—the pulse was quiet—the skin cool—the erysipelas scaling. The patient gradually convalesced under the employment of the bark, and after gently nutritious diet, and had no further unfavourable symptoms.—*Johnson's Journal.*

*Doctor Johnson remarks on this case*, that here was a simple case of erysipelas treated by bleeding, salines and bark, according to varying features. With respect to the first mentioned remedy, bleeding, we may state that it is seldom or never employed at this hospital; indeed the only instance we remember, besides the present, was one of erysipelas complicated with injury of the head, when the lancet was resorted to, and that to a very considerable extent, with the very best effects. The common run of cases are treated by calomel and antimony, &c. holding back the bark till the febrile symptoms have passed or are passing, and the tongue is cleansing. There is, however, a class of cases, especially of erysipelas about the head and face, when to wait for the cleansing of the tongue, before the exhibition of the bark would be to wait for what would never arrive, at least on this side the deadhouse. Such a case (but not a severe one) was the preceding, and the good effects of the cinchona, when the pulse got quick and low, and the tongue was growing brown, will be evident, to all who peruse the details we have given. We shall return to the subject as opportunities offer, in order to show the general practice in erysipelas pursued at this hospital, both as regards the internal remedies employed, and the local.

It is obvious that doctor Johnson considered the above case simply erysipelas—the fact that the patient after the “first few days had no rigors” shows, together with the absence of any well marked symptoms of cerebral inflammation, that this was a mere case of erysipelas.

We will not presume to dictate to our English brethren what may be the best practice in London, but we would forewarn our own countrymen from a practice so feeble, and unsuited to erysipelas as the disease is seen with us. What are we to think of bleeding a healthy young man to eight or ten ounces, and give him five grains of calomel to check a severe paroxysm of fever. If this patient had been bled to twenty ounces, or rather to any amount which might have been found necessary, to put a complete stop to the febrile excitement, and had, then, taken fifteen or twenty grains of calomel, with the *house physic*, if the former did not operate, we should not have heard of the “brown tongue,” and the puny doses of cinchona.

This patient having been slightly bled, and more slightly treated in relation to purging, we find, as we should have expected, the paroxysm

continued its course, and even increased, so as to require a repetition of bleeding in the evening, notwithstanding they were giving *prodigious doses* of Epsom salts and antimony; that is, *one dram of the former*, and *fifteen minims* of the latter, *once in six hours*. The blood was *sizy* and cupped, and considerable fever continued, and, yet, no active depletion was employed. On the 21st the pulse was 112, but apparently because the bowels were open, notwithstanding the skin was hot, and the tongue white and furred, he was directed to take an ounce of *Liq. ammon. acet. 6 tis horis*! Had proper depletion been employed, even now, the protracted state of the fever might probably have been prevented. A pulse at a *hundred and twelve*, *tongue furred*, *skin hot*, is a *fit state* for a *dose of sp. mindereri*, *once in six hours*, it seems, in London; here it will not do. If this patient had been with us, he might have thanked his stars if he had recovered from a pretty severe attack of erysipelas, under such treatment.

The febrile excitement having worn down the energies of the system, what would we expect but a "brown dry tongue, a quick pulse, &c." This state of things being present one ounce of *decoction of bark*, and still more wonderful, *half a dram of tinct. cinchona*, were given *once in six hours*. To our apprehension the best apology for so slender a practice is, that, it could do no harm, but, in this land, it would do no good.

Far be it from us to attempt censorship upon the English practice, upon English subjects. We are quite willing that they shall do their own business in their own way; but since they send us out their views and their practice, and since their literary fame stands so pre-eminent, and we find our countrymen but too apt to follow in their footsteps, we raise a warning voice.

But we cannot but believe that our remarks apply in some degree to English practice. Doctor Johnson tells us, notwithstanding his justification of the bark practice, in erysipelas, that the blood, in his case, was *sizy*, at a second bleeding; that after it, the fever continued with hot skin, and pulse at 112; and that one other case, in the hospital, from whence this case is taken, was freely bled, and did well. That erysipelas is there a common disease—of it several have died, under the bark practice, &c.

It is particularly worthy of record, says doctor Johnson, that Saint Georges' hospital has long been noted for the prevalence, and frequent *severity of erysipelas*, (we think it no wonder) within its walls. We are told that in the "past winter, it had become almost epidemic." This is one of the most inscrutable phenomena, attending disease of the human body. We shall endeavour to show, hereafter, that it extends sometimes to almost every disease. Ed.

## SURGICAL.

6. *Ulcerated "Cancer" of the Rectum cured by Extirpation.*—Jean Baptiste Legeron, ætatis 30, of bilious temperament and delicate habit, had laboured, during the spring and summer of 1828, under obstinate constipation, with a feeling of weight and lancinating pains in the rectum, for which he was forced to employ enemata, and which were thought to depend on a hæmorrhoidal affection. In the month of September, he applied to M. Maurin at the hospital, who found on introducing the finger into the rectum, an oval, hard, irregular tumour, ulcerated in its centre, and situate on the left side of the gut, about three inches from the anus. A fetid and abundant discharge took place, especially on passing the finger through.

the sphincter, but the moveable nature of the tumour induced M. Maurin to entertain favourable hopes of its extirpation: The patient was seen on the 17th by M. Dupuytren, who pronounced the tumour carcinomatous, and incurable without an operation, which latter, however, he considered as neither devoid of difficulty nor danger. On the 21st, M. Maurin proceeded to operate, confirmed in his opinion by that which had been given by M. Dupuytren.

The patient being placed upon the left side, with the limb extended and the thigh flexed—the sphincter was divided by a probe pointed bistoury, on the finger to the extent of half an inch, at its left and posterior part. The tumour was then laid hold of, and gradually drawn down through the external opening, when its origin from the side of the gut, was cautiously cut through with curved scissors. The operation was very painful, and the patient lost a considerable quantity of blood, but the hemorrhage was stopped by plugging the gut, and did not afterwards return. The tumour on examination, proved to be oval, a little flattened, ulcerated to the extent of an inch on its surface, two inches long, and compact in texture. It appeared to be developed immediately beneath the mucous membrane of the gut, and the muscular coat had not been wounded in the operation. Some smart febrile symptoms followed the operation, and required one or two abstractions of blood, and abundant suppuration was afterwards established, but gradually decreased in quantity; the pains which had plagued him so much and so long, quickly subsided; the wound in the sphincters cicatrized; and, at length, the patient was discharged the hospital, completely cured. On examining the rectum, no tumour was found, but only a depression in the part where it had been.—*Journ. Hebdom.*

We Americans feeling none of the misgiving which exists between French doctors and English doctors, may smile at the opposition, which we constantly see indulged, between professional men in those nations respectively. We do not mean to impute anything improper to the conduct of doctor Johnson, in the case before us; what we allude to is a deep rooted prejudice, of which, we believe, they are not often sensible. But what are we to think of doctor Johnson deliberately sitting down in his closet and pronouncing his opinion, that neither Dupuytren, nor Maurin, knew whether they saw cancer, or a mere ulcerated pile.

We deem this a most important case, and trust it will call forth the particular attention of surgeons. There is much reason for believing that scirrhus, or even cancer, of the anus or rectum, some times commence from so small a radical as to admit of their removal. This heretofore has been one of those diseases, in which the profession have abandoned their patients pretty much to their fate; and we can readily imagine cases in which, some two or three doctors visit a poor fellow every day, telling him from day to day, hold on good man, you shall have our kind attention; death has you in tow, and we would not have you grin, but you must bear it—death can relieve you, but we cannot—we will not be so rude as to make war upon the profession. Happily, however, doctor Maurin has passed the Rubicon, and we trust will never have to repent the step he has taken. Time will make us more fully acquainted with the influence which we may give the knife, over incipient cancer of the lower part of the rectum—mean time we rejoice in prospect; we remove carcinoma from other parts, why not attempt it here also?

7. *Fungous tumours from the gum and alveoli.*—Most surgeons have had opportunities of witnessing the hard, immoveable, red, and for the most

part, exceedingly vascular tumours, which grow from the gum, generally from that of the upper jaw. The structure of these tumours is frequently exceedingly like schirrus, at least it is semicartilaginous, and in one or two instances, we found on the section, a portion of sabulous matter or bone. Three cases of the kind are related by doctor MacLachlan. In the first, the tumour occupied the situation of the two middle incisors of the lower jaw, and had originated two years previously, in consequence of breaking one of them. The disease was removed by the knife, but the profuse hemorrhage which ensued, required the repeated application of the actual cautery together with compression, by means of a firm roll of lint and a bandage passed across the angles of the mouth and round the chin. The wound healed kindly and no appearance of reproduction of the disease has taken place.

In the second instance, the tumour which was firmer, more nodulated, and paler in colour, was of twenty years standing, had already been twice removed, and grew from the upper jaw. It was extirpated by the knife and the actual cautery afterwards applied. The third was one of a similar history and structure, apparently rather a production of the bone, than of the covering soft parts, removed by doctor Anderson from the posterior part of the palate.—*Johnson's Journ.*

We believe it is now generally admitted, that the mere excision of this tumour is not sufficient to ensure a cure. The actual cautery should be afterwards freely applied to the bone from which it grows, or under partial circumstances, the saw. With all these precautions, the evil is not always completely destroyed.

It will be perceived that the above views accord with our own as regards these tumours in their incipient state. We have not used the actual cautery except in polypus of the nose—we believe it may sometimes be used to advantage. The lunar caustic has served our purpose; in the advanced stage of the disease, tie the artery, &c. Ed.

8. *Aneurism of the Posterior Tibial Artery.*—A labouring man, ætatis 48, was admitted the 17th of July, 1825, (into the Worcester Infirmary,) and placed under the care of Mr. Shepherd. He complained of a pain in the right leg, where a tumour appeared beneath the gastrocnemius, hard, diffused, painful on pressure, and pulsating strongly. Pressure on the femoral artery arrested the pulsation, and violent pain was produced on allowing the blood suddenly to re-enter the tumour. No pulse could be felt in the posterior tibial, as it turns round the inner ankle, but that of the anterior tibial was distinguished. The pulse at the wrist was remarkably strong, and ninety in the minute—tongue furred and dry—appetite bad—head-ach—no cough. The disease had commenced with pain and stiffness three weeks before, followed shortly afterwards by the swelling and pulsation, and numbness extending down the leg to the sole of the foot. Sixteen ounces of blood were taken from the arm, the bowels freely opened, and cold lead lotion applied to the leg. On the 20th the femoral artery was tied with a single ligature, just where it is crossed by the sartorius, when all pulsation in the tumour ceased though the pain still continued. In the evening, no pulsation was felt in the anterior tibial artery, but the temperature of the limb was higher than in the other. On the 22d, the wound had almost united by the first intention, and the tumour was much diminished in size. The pain in the tumour was a great deal less; there was none whatever in the wound, but a pricking sensation was experienced in the foot.

On the 6th of August, a small abscess had formed near the upper end of the wound, which burst in the night, and on the 7th the ligature on the



vessel came away. On the 31st the leg was reduced to its natural size and the health was much improved; but pain was occasionally felt in the foot, and a sinuous opening at the upper part of the wound was discharging a small quantity of pus. On the morning of the 31st the poultice on the sinus was found to be tinged with blood, and the margins were hardened, tender and inflamed. In the evening, the reporter was summoned to the patient, on account of arterial hemorrhage from the wound, issuing in a stream as large as a crow-quill. Pressure on the artery above restrained it, only to recur when the pressure was removed, and requiring, therefore, its constant adoption.

"By midnight, a large quantity of blood had become diffused in the cellular membrane of the thigh, forming an aneurism, and by the morning it had increased to an immense size, extending upwards nearly to Poupart's ligament. The hemorrhage through the night could with difficulty be restrained by keeping up a firm and constant pressure on the artery above, and over the wound in the thigh. Did not complain of much pain; his tongue was furred and dry; skin hot; pulse seventy-four, and hard."

Early the following morning the external iliac artery was immediately and with ease secured by Mr. Shepherd. No bad symptoms followed of any kind; a quantity of thick coagulum, mixed with pus, was discharged from the original wound in the thigh, which did not, however, suppurate to any extent; the ligature came away on the twenty-seventh day; and October 20th the limb having regained its natural size, and nothing except a slight stiffness remaining, the patient was dismissed the infirmary cured. We should mention, that four days after the second operation the abdominal aorta was seen, and pulsating strongly, and on the 11th a deep pulsation was felt in the femoral, below Poupart's ligament.

The above is a valuable and interesting case; valuable, as exhibiting a sample of judicious surgical practice; interesting both from the phenomena it presented, and the final and fortunate result. The operation in the thigh, the ligature applied to the femoral artery, cured the aneurism in the calf of the leg; by stemming, not stopping the current of blood. So far the case is satisfactory enough, but why should secondary hemorrhage take place at so late a period as twenty-four days after the separating of the ligature from the vessel? Mr. Hodgson, in his work on Diseases of the Arteries, without exception the most valuable that ever was published on the subject, observes, that secondary hemorrhage occurs at two periods after the application of a ligature to an artery;—either within a few hours after the operation, or between the sixth and thirtieth day, when the ligature may be expected to be detached from the vessel. It is obvious, that the case is different from both, for the hemorrhage occurred, not as the immediate consequence of the operation, nor yet of the separation of the ligature, but nearly a month after the latter had taken place. We have witnessed a nearly similar case. It was that of a patient with popliteal aneurism, whose femoral artery was tied in the thigh. In twenty-one days the ligature came away; and a *fortnight* after that, uncontrollable secondary hemorrhage occurred. The common femoral was then secured, and *thirteen* days exactly, after the separation of this second ligature, secondary and ultimately fatal hemorrhage ensued.

We repeat then our question, what is the cause of the secondary hemorrhage at this late period? Whether does it arise from insufficient coagulum, weak adhesions of the divided coats, or ulceration, extending from without? for in all of the cases, sinuses communicating with the wound

remained. We do not know ourselves, nor have we found any one who did. Med. Chir. Rev.

We have been forcibly struck by the question of doctor Johnson relating to the cause of secondary hemorrhages, under the circumstances of the above mentioned case. Believing this to be a subject of great importance, we will not enter at this time into our views; but in our next we shall not neglect to use our endeavours to explain the nature of such cases.

In reply to the question, as to the cause, of which doctor Johnson says, "we know not neither have we found any one who did," we say, these hemorrhages are owing to the employment of contusing and cutting ligatures—these, sometimes by exciting suppurative inflammation, (hence the "sinuses") prevent the healing of the artery. The vessel not being healed, at any time, is kept from pouring out its blood, by a stopple of coagulum. In our paper upon traumatic hemorrhage, published in the Philadelphia Medical Recorder, we have cited a case from Petit, in which the brachial artery was stopped two months, by coagulum, without any adhesion of the sides of the vessel. While surgeons continue to tell us, that, ligatures came away, so and so, that is, after cutting their way through the vessel, we may expect secondary hemorrhage. For ourselves, we have never had it to occur, we fear it not if we can get a sound vessel.—If surgeons will blindly persist in rejecting the dissoluble ligature, which if properly applied never affects the continuity of the coats of the vessel, they are accountable for the consequences. The blindness of prejudice is oft times harder to remove than an obscuration of the lens of the eye. We solemnly pledge ourselves, that, if any thing occurs to change our views, it shall be made known.—Should a case of secondary hemorrhage follow the use of the soft buckskin ligature, we will announce it, and renounce our opinion; but with our experience, as it now stands, we say, again, every surgeon who applies a hard indissoluble ligature, stands accountable to his patient for untoward consequences; he is literally preferring the darkness of night to the light of day.

9. *Case of thoracic abscess.*—Capt. Hall was admitted into the Baltimore Hospital, in the year 1821. On an investigation of his case, the following facts and appearances presented themselves. About four months prior to his admission, he had been stabbed with a dirk between the sixth and seventh ribs, on the left side; and, consequently, near the apex of the heart. Extreme pain succeeded, difficult respiration, inability to lie down. Fever, emaciation, and other distressing symptoms attendant on inflammation of the thorax succeeded. After some weeks suffering, the chest became distorted on the injured side—and, at the time of his admission, there was a prominence of very considerable magnitude showing the ribs to be much separated from each other, at their angle. At the time of admission, and for some weeks before, he could not lie down on either side; or upon his back a single minute, without much apparent hazard of suffocation—and, even in the erect position of the trunk he laboured under great difficulty of breathing. The exertion of speaking greatly fatigued him; his eyes would become prominent and fixed, resembling the state of suffocation.

The history of the case, together with the phenomena present; among which we should have mentioned fluctuation; discoverable by percussion, left no room to doubt the existence of an abscess. This circumstance at once pointed out the propriety, and necessity of evacuating the matter—it was obvious however that such was the prostration, and such the increased dimensions of the thorax, (which we were about to empty, and lessen suddenly,) that there must be considerable danger, from the debil-

ity which would be thus suddenly induced. There was, however, no alternative but speedy death or an operation; the operation was, therefore, decided on at once. An incision, about two inches in length, was made through the integument, along the course of the seventh rib. The skin was now drawn up, and a bistouri passed in between the sixth and seventh ribs. Pus flowed out with considerable force, and continued till twenty-five half pint measures were drawn off. Vast quantities of pus were discharged during several weeks; amounting in all to several gallons.

The patient laboured under some degree of hectic fever; suffered from cough, dyspnoea, great prostration. Attention to mild nutritious diet, with cordial drinks, occasional aperients, and tonics intermediately, served to support the patient through a disease which, for several weeks, seemed to present no other prospect but that of a fatal issue. In a few weeks it was evident that the patient was improving in strength and appetite; and a rapid diminution of the discharge took place. In a few months Capt. Hall, to all appearance, entirely recovered his health, and left the hospital cured. He has never since reported himself; but, I presume no evil could well arise from a disease which had so completely yielded to treatment. This case is certainly important since it goes to show, that it is never too late, to employ rational means, while there remains the slightest hope. What more incredible if we had not seen the fact, than that the left side of the thorax should have contained upwards of a gallon and a half of pus, which must have rested against the pericardium, as one of its walls, and the patient recover notwithstanding. Editor.

10. *Case of Fracture of the Skull.*—A boy at a military parade was kicked by a horse with extreme violence. There was a fracture running across the frontal bone, about two inches; and another nearly parallel, so as to loosen a piece of bone about three fourths of an inch at its broadest part, and terminating at either end in a sharp point. This piece was so much depressed as to have slid nearly under the sound portion of the bone, on the upper side of the fracture—the fractured portion was so completely wedged, that not the slightest motion could be impressed on it by the levator. I saw the patient two hours after the accident, at which time, he had not spoken—was quite unconscious, and violently convulsed most of the time—pulse full—hemorrhage moderate; breathing stertorous.

This fracture, presenting a detached piece of bone, of an oblong shape, with its longest diameter running horizontally, presented a case which was not suited to the application of Hey's saw. The circumstances of this case induced me to prefer the use of a very small trephine—this was employed to make a perforation in the upper portion of sound bone, at the edge of the fracture, barely sufficient to admit the elevator. By means of this instrument, the detached portion of bone was readily raised up. We deem this an important circumstance connected with the operation of trepanning. Nothing connected with this operation can be more certain than the fact, that the less of the dura mater we uncover the better; and it is with a view of showing the importance of this rule of practice, that we have reported this case. It was found upon elevating the visible piece of bone that the two tables were separated, and the inner driven deeper in upon the dura mater, and, so as to present its edge, in some degree, to that membrane. The boy was violently convulsed before and during the operation. There was considerable contusion of the dura mater. The integuments had been cut so freely, that nothing but a slight incision transverse to the course of the wound was necessary. The edges of the wound were

brought together, by adhesive strips, leaving a little opening at a depending part for the escape of matter. The convulsions did not cease entirely for several hours—after tranquillity had been restored no untoward symptoms occurred. The usual antiphlogistic course of treatment was enjoined. In two weeks the patient eloped, and has since enjoyed fine health, as I have been informed. Every trepanning case of instruments should contain a trephine of about half an inch diameter—this will often enable us to afford relief in cases of fracture, with depression, with very little loss of bone.

11. *Case in which the osseous disk removed, by the trephine, was regenerated.*—A patient some years since died at the Baltimore Hospital who had had a portion of the skull removed, of the usual size of the trephine, two or three years previously. It was found on dissection that there was so entire a restoration of bone, that no traces of the perforation could be perceived on the inner side of it. He was a man of bad habits, and, I think, upwards of thirty years of age.

### MORBID ANATOMY.

12. *Case wasting one lobe of the lungs.*—Nordike was supposed to have died of phthisis pulmonalis, at the Baltimore hospital. The pleura was found throughout closely attached to the sternum and ribs; the mediastinum was entirely obliterated, or so thickened and blended with the pericardium as to lose all regular form. The pericardium had become greatly thickened throughout, but at its upper portion about the great blood vessels particularly, it was more than an inch in thickness. All these indurated, and greatly thickened membranes, had portions of a cheese-like matter, and also portions of pus, interspersed through their substance. The entire left lobe of the lungs was apparently quite sound, *but the right was altogether missing.* In attempting to break up the adhesions of the pleura on the right side, my hand plunged into a large cavity filled with grumous and coagulated blood, slightly fetid. The colour and texture showed it not to have been a late deposit; at least in greater part. In place of the lung we had a mass of coagula, portions of organized lymph, &c. presenting all the usual appearance of the contents of an aneurismal tumour far advanced. The roots of the great veins and arteries were cut straight off, by the ulceration, and yet there was little if any pus in the mass of coagula. The vessels standing with their mouths round and fully open, the patient must have died of hemorrhage if the contents of the affected side of the thorax had not served to place the relation of parts as they are in old aneurisms. Indeed, this case must be viewed as a sort of anomalous aneurism, as the blood must have had free ingress and egress through the cavity of the thorax—this cavity was, however, very small, since the greater portion of the usual space was filled with coagula, masses of fibrin, &c.

13. *Case of stricture of the urethra attended with protracted constitutional sufferings.*—This was the case of Thomas Williams, who died at the Baltimore hospital. Upon passing a catheter into the urethra no resistance was met till the instrument passed the bulb—nearly the whole of the membranous parts was much contracted and ossified—the entrance into the bladder was perfectly free. There was some induration and blending

of the prostate and neck of the bladder. Immediately under the urethra there was a duct of the size of a small quill which ran parallel with the urethra and terminated about the bulb—this duct had the texture of cartilage. Two or three other ducts or openings passed from the bladder outwards and terminated in the form of a cul de sac. A superficial knowledge would serve to show here that no relief could have been effected by the use of caustic. But there would be every thing to hope from the operation which we introduced to notice several years since. We mean the operation of opening the urethra freely into the bladder, and healing the wound over a large flexible tube.

There was found much disease of the abdominal viscera. The kidneys had a flabby feel, and their organization so deranged as to destroy all appearance of the tubuli urinarii the glandular papillæ, and even their pelvises. All visible cavities were choked up with a fatty structure. The left kidney had a considerable part of its external surface at its outer edge much corroded by a cancerous ulcer. There was no appearance of pus but a good deal of a brownish fluid of the consistence of tar. In the substance of this kidney there were three calculous bodies of a bony hardness, and much resembling human teeth in form.

The spleen was firmly attached to the diaphragm and to the liver. Its outer surface covered by a cartilaginous structure, beset with many little prominences, giving the part somewhat of the appearance and feel of very coarse sand-paper.

The liver was also much diseased. Its convex surface appeared dry, of a sandy roughness and leaden colour. It was small, and tender on its surface. The lower edge of the right lobe had a large blotch of a bluish colour. The gall bladder was full of bile of the consistence and colour of tar, and in it were found four galls stones, having so striking a resemblance to black berries that they might readily have been passed as such. The fat and whole skin was of a very deep yellow.

14. *A singular case of disease of the abdomen of a negro boy.*—This case may be said to be in some degree important, owing to the fact of its serving to show that the most pernicious consequences may arise from the maltreatment of acute inflammatory diseases. The disease having lasted nine months, but an imperfect account of the treatment in the early stage could be obtained.

This boy aged seven years, had been nine months afflicted with pains of the abdomen, and constant diarrhea. These symptoms commenced with high fever. He was attended in the early stage of the disease by a physician whose attentions continued throughout, assisted in the advanced stage of the case by another in consultation. No precise account of the disease could be obtained except as regards the entire omission of venesection or other active evacuates.

After great and protracted sufferings it was observed that the abdomen was swelling—this gave rise to the opinion that the disease would terminate in ascitis—afterwards it was supposed to be tympanitis. The patient had through much of his disease enjoyed a pretty good appetite, but his digestion was imperfect, as evinced by his passages. His muscular powers towards the termination of the disease were greatly prostrated, so that for a long period of time he could not stand. A pretty severe diarrhea was a constant symptom of the disease. He had four or five passages at least every day, and the feces generally resembled that of infants, and such was the appearance of that found in the intestines after death.

In consequence of some person having expressed an opinion that the

boy's death was owing to poison, his mistress became anxious to have him examined, and called in my friend doctor Granville Townsend, then one of the dispensary physicians—the doctor requested my assistance.

*Dissection.*—On viewing the body before dissection, we discovered a considerable enlargement of the abdomen. It had the appearance of a person much advanced in ascetia, but testing the swelling by percussion with the hand in the usual manner, we decided readily that there was no water in the abdomen.

The skin was divided the whole length of the linea alba, and the knife carefully carried through the tendinous sheath and peritoneum, just below the scrobiculus cordis, and the fore-finger introduced to serve as a director. Before the knife reached the umbilicus, it was found that the finger could not be passed down as usual between the peritoneum and the abdominal viscera. The most careful efforts were made to dissect through the linea alba from without, but it could not be done. The linea alba, peritoneum, omentum, intestines, and mesentery were firmly and inseparably connected.

An attempt was made to bring the colon into view, but such was the nature of the adhesions and such the disorganization of parts that nothing like an intestine could be discovered. The pylorus, together with about three inches of the duodenum was apparently healthy, but here the intestinal canal lost every resemblance to its usual appearance. The intestines terminated here in what might be termed a labyrinth, which wound about through a misshapen mass. Even the internal surface of this labyrinthine passage was indescribably irregular and rough—owing I suppose, to a diseased state of the glands of the internal coat of the intestines—all the glands here, as well as throughout what seemed to have been the mesentery, had a cheese-like consistence and colour. The liver was also found adhering throughout its whole surface, being attached to the peritoneum, intestines, diaphragm, and stomach—its appearance otherwise healthy. The stomach was somewhat thickened and hardened in its coats, and its upper surface was loaded with an indurated membranous covering, having many whitish prominences resembling small indurated glands.

*Remarks.* The anatomical reader will readily figure to himself, what an unseemly mass must have presented itself where a complete agglutination is formed out of the external muscles, the peritoneum, omentum, intestines, mesentery—all this rendered still more horrible in appearance by the diseased state of the glands—the whole forming a mass sufficient to distend the abdomen to the size of a person very far advanced in ascetia.

It may be remarked that nothing like the peristaltic action of the bowels could have existed for several months. No such thing as a muscular fibre could be distinguished in the intestinal coats, nor any thing like coats or natural structure. Neither could the lacteals have performed their office—they were indeed wholly obliterated. The reduced state of the muscular power, together with the peculiar state of the feces already noticed, shows that nutrition was very imperfectly effected. It seems quite probable, that nutrition was effected wholly by means of venous absorption. Ed.

15. *Singular case of strangulated hernia.*—In April 1826, we dissected a male subject, grey headed from age, who seemed to have died of strangulated hernia, attended with some striking peculiarities. A large portion of the intestinum ileum had been long in the scrotum, as was evident from firm and extensive attachments. The incarcerated portion of intestine passed out through an opening, at the lower abdominal ring, large enough to admit three fingers. The tunics peculiar to the parts, and also the sac,

were unusually thickened—it was evident that the bowel had long performed its office in the scrotum. There was not only attachments through the whole extent of several convolutions of the gut, but, so abundant had been the deposition of coagulable lymph, that the coats of the intestinal tube could not easily be distinguished from the adventitious membranes.

Looking on the anterior surface of the parts, as they lay exposed, one would have been led to believe, that no stricture existed, there being no confinement whatever of the bowels at the common aperture—and, I am inclined to believe that the most experienced surgeon might have put this patient to bed, after opening the parts, denying the existence of strangulation altogether. It was only after turning up the intestines from their attachments, that, we discovered *two or three inches of the colon, stuffed in behind the incarcerated bowels*. This part was inflamed and firmly strangulated behind, and a little to the iliac side of an opening formed behind the old hernial sac. The inflammation extended extensively to the peritoneum, and to the intestines generally. The colon was unusually long and passed over the promontory of the sacrum to the right side, and then descended into the pelvis, being closely tied down at this point, by an adventitious membrane.

The surgical reader will readily believe that this might have been a very perplexing case, but the patient seems to have died of the disease, under the care of his physician; and perhaps under the mistaken view of the case, that as the hernia had long been incarcerated, and not visibly altered in its appearance, there could be no strangulation; and we have already said, that we believe even the most experienced surgeon might have been deceived, even after opening the sac. This should be a warning to all parties where a similar state of things might happen to exist.

This subject was remarkable in some other respects. The aorta was at least twice its ordinary size. The right subclavian, and both carotids were given off in one trunk. The Thyroid cartilage lay in part under the sternum—the cricoid cartilage not more than three fourths of an inch from the sternum. The pleura pulmonalis was somewhat inflated, but the attachments showed that the left lobe of the lungs passed over the arch of the aorta, nearly to the right side of the sternal bone—the arch of the artery was a considerable distance below its usual situation on the spine. Ed.

## ANATOMY.

16. *A case of strange superfluity in the length of the arteries.*—In one of the subjects brought into Washington Medical College, during the session of 1828-9, there was a singular redundancy of the arterial system. The ascending portion of the arch of the aorta did not rise higher than the upper edge of the cartilage of the second rib; but it passed rather more to the right side and forward, or dextrad and sternad; being very nearly if not altogether in contact with the sternum; it then made an extensive sweep, sinistrad and dorsad, or to the left side and backwards; passing entirely over the bodies of the vertebræ and the heads of the ribs; and gradually in its course, sacrad or downwards, rose upon the sides of the bodies of the vertebræ, till it came in front, where it goes through the crura of the diaphragm. On the lumbar vertebræ it struck off again sinistrad, diverging about an inch from the direct line, and returning to its proper situation at the bifurcation, formed a semi-ellipsis. The common iliacs dipped deeper

into the pelvis than usual. The epigastric and obturator were given off on both sides by a common trunk, which arose from the external iliac artery, close inside of the femoral ring; this trunk took its course mesiad, towards the symphysis pubis and divided upon the linea ileo-pectinea: the obturator going directly down to it's foramen; the epigastric attached itself to the inner surface of Gimbernat's ligament; crept along it, sternad and laterad, or forwards and onwards, until it came in front of the external iliac, opposite the spot where the trunk was given off; thus surrounding four fifths of the femoral ring. The innominate ascended fully three fourths of an inch above the sterno-clavicular articulation; and the right subclavian then passed sacrad and dorsad, or downwards and backwards, towards the head of the first rib; turned dextrad, atlantad and sternad, or to the right side, upwards and forwards, and went through between the scaleni muscles. On the left side the subclavian rose in the neck considerably higher than usual. A great number of the smaller arteries, and many of the secondary branches, as the fascial, were contorted in a surprising manner. S. A.

## MISCELLANY.

### MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

At the annual Convention of the Faculty, held on the 1st June, 1829, the following officers were elected for the ensuing year:

Dr. Robt. Goldsborough, of Queen Anne's, *President*.

Nathan R. Smith, *Orator*.

John Fonerden, *Recording Secretary*.

Henry W. Baxley, *Corresponding Secretary*.

William W. Handy, *Treasurer*.

#### MEDICAL BOARD.

##### *Examiners for the Western Shore.*

Dr. J. Buckler,

\*G. Frick,

T. E. Bond,

\*W. Fisher,

Dr. J. L. Yeates,

H. W. Baxley,

P. Snyder.

##### *Examiners for the Eastern Shore.*

Dr. T. Thomas,

J. M. Anderson,

P. Wroth,

Dr. T. Denny,

J. Sykes.

#### CENSORS.

##### FOR THE WESTERN SHORE.

##### *City of Baltimore.*

First Ward,  
Second-Ward,  
Third Ward,  
Fourth Ward,  
Fifth Ward,  
Sixth Ward,  
Seventh Ward,  
Eighth Ward,  
Ninth Ward,

Dr. H. Johnson,  
J. Allender,  
J. L. Yeates,  
J. B. Taylor.  
J. P. Mackenzie,  
A. Alexander,  
R. W. Hall,  
J. I. Cohen,  
G. S. Gibson,



Tenth Ward,  
Eleventh Ward  
Twelfth Ward,  
*City of Annapolis,*  
*Frederick City,*  
COUNTIES.

*Alleghany,*  
*Washington,*  
*Ffederick,*  
*Baltimore,*  
*Harford,*  
*Anne Arundel,*  
*Montgomery,*  
*Prince Georges,*  
*Calvert,*  
*Charles,*  
*St. Mary's,*

J. Fonerden,  
H. W. Baxley,  
J. H. O'Donovan,  
J. Ridgely, D. Claude,  
W. B. Tyler, J. Baltzell.

Dr. J. M. Lawrence, S. P. Smith  
W. Hammond W. W. Hitt  
W. Willis, J. Baer  
H. Goldsborough, C. Byrne  
W. Dallam, T. Worthington  
J. Hopkins, A. Riggs  
O. Wilson, W. P. Palmer  
B. I. Semmes, C. Duvall  
T. Blake, G. Dare,  
W. Weems, W. Queen  
J. Stone, W. J. Edlin.

FOR THE EASTERN SHORE.

*Chestertown,*  
COUNTIES.

*Cecil,*  
*Kent,*  
*Queen Anne's,*  
*Caroline,*  
*Talbot,*  
*Dorchester,*  
*Somerset,*  
*Worcester,*

P. Wroth

J. W. Veazey, A. Evans  
E. Scott, M. Brown  
J. Crane, R. Goldsborough, Jr.  
M. Keene, S. Harper  
S. T. Kemp -Hammond  
W. Jackson, F. Phelps  
S. K. Handy, H. Highland  
J. S. Martin, W. F. Selby.

The following gentlemen have been admitted members of the Medical and Chirurgical Faculty since June 2d, 1828.

Duncan Turnbull, M. D.  
Anthony Hermange, M. D.  
Lock F. Weems, M. D.  
George W. Warfield, M. D.  
Stephen B. White, M. D.  
Jerome Mudd, M. D.  
Henry W. Snyder, M. D.  
Burton Randall, M. D.  
Robert M'Coy, M. D.  
John W. Mountz, M. D.  
Albert Ritchie, M. D.  
Washington Duvall, M. D.  
John B. M'Dowell, M. D.  
John W. Anderson, M. D.  
William Patterson, M. D.  
Thomas R. Johnson, M. D.  
James W. Pryor, M. D.  
Richard H. Clagett, L. M.  
Lloyd Dorsey, M. D.

Theodore Prosh, M. D.  
Charles W. Johnson, M. D.  
James R. Ward, M. D.  
Leander W. Goldsborough, M. D.  
Robert Fulton, M. D.  
Samuel Chew, M. D.  
Jas. W. Echelberger, M. D.  
John C. S. Monkur, M. D.  
Benj. J. Perry, M. D.  
August W. Wegner, L. M.  
James B. Rogers, M. D.  
Fred'k. E. B. Hintze, M. D.  
Reuben Summers, M. D.  
Augustus L. Warner, M. D.  
Charles Macguire, M. D.  
William E. Potts, M. D.  
Emanuel K. J. Hand, M. D.  
John J. Myers, M. D.

JOHN FONERDEN, Rec.\*Sec.

\* The gentlemen whose names are marked with the asterics have resigned.

**WASHINGTON MEDICAL COLLEGE OF BALTIMORE.**

Washington Medical College of Baltimore was founded in 1827. There are six professorships in this institution; the students are required to attend two full courses of lectures, before they are admitted to an examination for the degree of doctor of Medicine.

The first courses of lectures were delivered at the College buildings in Holliday street in the winter of 1827-8.

The following gentlemen, having previously attended other medical schools, obtained diplomas, after the usual private, and public examinations.

John Broom,	<i>Maryland,</i>
Edward Schwartz,	<i>Baltimore,</i>
Daniel S. Forney,	<i>Maryland,</i>
John H. Owings,	<i>Baltimore,</i>
Robert N. Wier,	<i>Virginia,</i>
Wilson W. Kolb,	<i>Maryland,</i>
George W. Chalmers,	<i>Baltimore,</i>
Allen C. Hammond,	<i>Maryland,</i>
Benjamin Johnston,	<i>Pennsylvania,</i>
John J. Myers,	<i>Do</i>
Burgess L. Beall,	<i>North Carolina,</i>
David M. Cass,	<i>New Hampshire.</i>

In session terminating in the spring 1829, the degree of doctor of Medicine was publicly conferred on the following gentlemen.

Rufus H. Speake,	<i>D. Columbia,</i>
Septimus J. Cook,	<i>Do</i>
Augustus J. Schwartz,	<i>Baltimore,</i>
John S. Reese,	<i>Do</i>
Philip S. Chappell,	<i>Do</i>
Adam Carl,	<i>Pennsylvania,</i>
Henry Smyser,	<i>Do</i>
Samuel L. McKeehan,	<i>Do</i>
Elias Stevens,	<i>Virginia,</i>
Arthur Applewhite,	<i>North Carolina,</i>
Charles Turner,	<i>Delaware.</i>

The annual course of Lectures, in Washington Medical College, will commence on the last Monday of October ensuing, and continue the usual term of four months.

Horatio G. Jameson M. D. professor of Surgery, Samuel K. Jennings M. D. professor of Therapeutics and Mat. Medica, William W. Handy M. D. Obstetrics, and the diseases of women and children, James H. Miller M. D. Theory and practice of Medicine, Samuel Annan M. D. Anatomy and Physiology, James B. Rogers, Chemistry.

The fee for each ticket is \$15.

A matriculating fee of five dollars will be required each session. No charge for the dissecting room, except five dollars to the demonstrator of anatomy.

Price of diplomas \$10.

SAMUEL K. JENNINGS,  
*Register.*

*Aug. 13th, 1829.*

THE  
MARYLAND  
**MEDICAL RECORDER.**

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**ORIGINAL ESSAYS.**

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*A series of cases of Chronic Hepatitis, &c., illustrating some of the effects produced by Hepatic Disease upon the Brain and Nervous System, and the Pulse.* By RICHARD N. ALLEN, M. D., Belair, Harford County, Maryland.

**I**T has been well remarked, that in regard to the affairs of life, we require to be reminded rather than to be taught; and that, without the occasional suggestion of familiar truths, we are apt to lose sight of their practical application. The observation is as applicable to physical, as to moral science; and from this principle of human nature arises a large share of the benefits to be derived from medical journals. The difficulty in applying the general truths of science to the uses of ordinary practice, has been felt by all, and is universally acknowledged. Their application can be ascertained and rendered definite by nothing but experience and diligent observation. But as personal observation and experience, however efficient and indispensable for the perfection of individual judgment, must of necessity, be restricted within narrow limits; it becomes absolutely necessary that the medical practitioner should have occasional recourse to the observations of his cotemporaries. This object can be effected only by a free communication among the members of the profession, sustained through the medium of periodical works.

These remarks are designed as an apology for submitting the following cases to the view of the medical profession. The writer makes no pretence to novelty; but as the cases have an evident connexion with some interesting pathological relations among the different organs of the body, they may not perhaps be entirely destitute, either of interest or importance.

*Case 1.*—Mrs. J. R., aged perhaps about 35.—This case

began with an obscure and irregular tertian intermittent—on some days the paroxysm consisted of obscure sensations of *creeping* chilliness, or of undefinable feelings of general indisposition; sometimes of a distinct chill, followed by fever and sweat. But whatever might be the form of the paroxysm, it recurred regularly at the tertian periods. The appetite was natural—tongue clean—skin natural—pulse natural in frequency, but languid, and intermitting about one stroke in fifteen—muscular strength diminished. There was *no pain in either side or shoulder—no difficulty of lying on either side—nor any yellowness of the skin or eyes*. The bowels were much constipated; and at intervals, altogether irregular in duration, attacks of dyspnoea were suffered, *but these were not aggravated by the recumbent posture*. The only symptom which *at this time* decidedly indicated the existence of hepatitis, was a considerable soreness of the epigastrium.

These symptoms had existed for several weeks before I was called in, on the 3d of April, 1827. For a few days the case was treated by the alternate use of purgatives and bark. The system was then promptly subjected to the influence of mercury. The chills, &c. were thus arrested, but the hepatic affection became more decidedly developed, during the continuance of the mercurial course, by uneasiness in the right hypochondrium, and other moderate, but characteristic symptoms.

The mercurial course with occasional bitters, and laxatives, and external irritation by blistering, was continued till the 2d of May. At this time all the other symptoms were greatly relieved; but soreness of the right side, with general debility, still existed.

One dram of nitric acid was now ordered to be taken daily, in a pint of sweetened water— $\mathfrak{z}\text{j}$  of strong mercurial ointment to be rubbed into the side every night. This course was continued till the 30th of May, when scarcely any symptom of disorder remained, except the soreness of the hypochondrium, which still continued in a slight degree. Medicine was now discontinued, except that bark as a tonic was directed to be *occasionally* taken, and laxatives if required by the state of the bowels.

In the following November, I was again consulted by this lady. Notwithstanding the symptoms of recovery from the spring attack, she had never regained her health, but had been subject to occasional chills, dyspnoea, &c. Her pulse was now strangely irregular, never maintaining the same mode of action for a single minute together, and having perpetual intermissions, hobbling, fluttering, &c.

As she was now pregnant, I did not think it prudent to repeat the use of mercury, and recommended nothing but the occasional use of aperients.

Under this plan however, she finally recovered. Parturition occurred in the succeeding April, one year from the beginning of my attendance. Just before the occurrence of labour, she suffered a very severe attack of acute hepatitis, which was relieved by one free bloodletting, followed by large doses of calomel and ol. ricin., and by the application of a blister to the hypochondrium.

A new, but less severe attack, was experienced about two weeks after her confinement. This was successfully combatted by calomel and other cathartics, antimonials, and a blister.

Since then she has suffered no attack, but continues in tolerable health.

*Remarks.*—It is well known to practising physicians, that but an uncertain portion of the symptoms enumerated in systematic works as indicating the presence of particular diseases, is to be found in any individual case. As many symptoms may be absent which would be characteristic of the disease; so several may, and usually do exist, which have no uniform or necessary connexion with it.

Though the case before us was a severe and unquestionable case of hepatic affection, giving rise in its progress to very serious and alarming disorders; yet most of the signs usually attendant on disease of the liver were entirely absent, as will appear by recurring to the account of the symptoms.

The disorders having no *necessary* connexion with the hepatic affection, were the distressing and long continued dyspnoea, and the extreme irregularity of the pulse, which was of equal duration. These symptoms led me to suspect a fatal organic affection of the heart. There being no pain in the region of this organ, no tendency to syncope during the paroxysms of dyspnoea, nor any anxiety or distress evinced in the countenance, were circumstances which confirmed me in the opposite opinion. The correctness of this opinion has been demonstrated by the event.

The liability of acute inflammation to supervene upon that of a chronic nature, is another pathological fact which is illustrated by the present case.\*

\* October 1829, I have seen Mrs. R. in the present month, and she continues after the lapse of two years and a half from the first attack, to enjoy tolerable health. She is able to attend laboriously to her household concerns, and her appearance is perfectly healthy; but she has still occasionally, pains in both hypochondria and shoulders, slight chills, and tendency to costiveness. The pulse is also sometimes slightly irregular.

**Case 2.**—Henry Kennedy, aged about seventeen. This case had existed for several days before my first visit, and had been attended by considerable pyrexia. I was called in on Thursday, March 9th, 1827, when the following symptoms existed: very great yellowness of the skin and eyes—slight soreness, without pain, in the right hypochondrium—uneasiness in lying on the left side—frequent puking, with occasional attacks of excruciating pain in the abdomen—obstinate constipation—cool skin—pulse rather languid, and only 45 in a minute. *There was no pain in either shoulder, nor was there any cough.*

The treatment was commenced by active cathartics of calomel, sulph. magnesia, and senna, &c.; with occasional opiates, and a blister over the region of the liver.

Though the bowels had been freely opened, and the disease much relieved by this treatment, yet the family were alarmed on the 10th by the occurrence of stupor, sleeping with half-closed eyes, spasmodic affection of the jaws, and red spots upon the cheeks. The skin remained cool and yellow as at first, the pulse from 45 to 50 in a minute, no local pain or uneasiness whatever, existing in the head or any other organ.

The discharges produced by the cathartic medicine, which was made to operate every day, had heretofore been morbid and dark-coloured. Thinking that the above symptoms of oppression might be connected with the accumulation of morbid matters in the stomach, and hoping to remove or alleviate the spasmodic affection of the biliary ducts, an emetic was now given. This operated well, but without any discharge of bilious matter.

Calomel and opium were now given every four hours, with enough sulph. magnes. and senna, to procure several discharges daily—fomentations occasionally to the abdomen.

Under this treatment, the nervous symptoms, last mentioned, disappeared in a day or two; but the pulse did not exceed 50 beats in the minute till March the 13th, at which time it became increased in frequency, and by the 15th had resumed its natural frequency. The gums were now sore, the yellowness of skin, &c. nearly gone; and little appearance of disorder remained, except a rather constipated condition of the bowels, requiring the occasional use of mercurial laxatives. As the patient was debilitated, and the circulation languid, a bitter was also ordered. These remedies were continued but for a few days longer, when he returned to perfect health, which has suffered no interruption to the present period.

**Remarks.**—Though this case may be termed Jaundice, and may seem to be improperly stated under the head of Chronic

Hepatitis, yet in regard to the sympathies in which it involved the nervous and arterial systems, it may be considered as strictly analogous. The jaundice may be well accounted for by the constipation, or by the spasm of the ducts induced by the original inflammatory affection. I have no doubt that a morbid condition of the fluids induced by the absorption of bile into the circulation, had a principal agency in producing the symptoms of cerebral and nervous disorder, as well as the singular blotches which appeared on the cheeks; though something may also be attributed to a direct sympathy of the brain and skin, with the morbid condition of the liver and intestines. That bile, urine, and other animal fluids, may be absorbed into the general circulation, rendering the blood deleterious to the organs through which they pass, is now as well established as any fact in medicine, however dogmatically some of our northern neighbours may oppose their speculations to matters of fact, established on unquestionable evidence. For information on this subject, and on the subject of jaundice generally, I beg leave to refer to a paper by doctor Marsh, in the *London Medico-Chir. Review*, noticed in the 7th vol. of the *Philadelphia Medical Recorder*.

Though a slow pulse is known often to accompany certain diseases of the liver and its ducts, yet the retardation of pulse was here very remarkable. For at least five days it was generally about 45, and never during that time exceeded 50 in a minute; yet, if we except the cerebral symptoms which occurred on the 10th, there was no appearance of any immediate danger during the whole course of the disease. It is however well observed by doctor Marsh, and is no doubt true, that the sympathetic affection of the brain becomes important and dangerous, in proportion to the weakness and irritability of the patient.

*Case 3.*—E. S. aged perhaps about eighteen. In this case, an attack of intermittent had been suffered in the autumn of 1825, from the consequences of which, the patient had never perfectly recovered. The intermittent had recurred in the fall of 1826, and had existed about eight weeks, when I was called in, on the 15th of October.

She had now a lingering chronic excitement, without distinct paroxysms; a pale and leucophlegmatic appearance of the skin, with thirst, headach, constipation, and general debility. Considerable soreness also existed under the ribs, on both sides.

An active cathartic was at first given, and a blister applied to the right hypochondrium—the mercurial treatment was then

immediately commenced, the bowels being at the same time regulated by occasional aperients.

On the 24th the gums having for several days been deeply affected, the febrile symptoms had greatly abated, but the patient complained of *great failure of sight*. This quickly increased to almost total blindness, which remained for about two weeks.

On the 26th, a considerable degree of mania occurred, with inability to sleep for a moment without the most horrid images appearing to her mind.

On the 30th and 31st, the mental disorder was considerably diminished; but tremors of the head occurred, with convulsive movements of the eye-balls.

The mercurial affection was still kept up, and tonics prescribed.

November 1st, 2d, and 3d, she suffered violent lancinating pains in the head and both hypochondria.

November 4th. The pains continued, and were so very distressing as to produce screaming, &c. *Immediately on the occurrence of these violent pains, the mental affection entirely ceased, and did not return. The blindness had also been much diminished since the occurrence of mania.*

The pains were successfully combatted by extensive blistering, and by the use of Dover's powder; and it was judged proper to continue the use of mercury.

Under this management she perfectly recovered, and early in December resumed her occupation as a manufacturer, at the Warren Factory, near Baltimore.

#### *General Observations.*

The symptoms above detailed, as arising from various affections of the liver and digestive organs, have been noticed by several writers; but as periodical works are much more extensively circulated among the profession than any others, their suggestion through the medium of this journal may not be destitute of utility or interest. A case of temporary blindness from similar causes, may be found in the first American edition of Scudamore on gout, &c. p. 47. Cases of mania arising from diseases of the liver may be found in *Ayre on Marasmus*, and in *Johnson on Disorders of the Liver*, &c. Indeed the *gastric pathology* of mania, as it is termed, is one of the fashionable doctrines of the present day, which, like other fashionable doctrines, has no doubt been carried to unwarrantable extent.

The last mentioned work of doctor Johnson will be found to



contain an account of most of the disorders which may be symptomatic of affections of the liver.

Within the last few years, I have seen a case of a young gentleman who had suffered repeated annual attacks of autumnal fever, in whom several apparently paralytic symptoms arose, connected with a disordered state of the biliary secretion, and of the digestive organs. These were vertigo, frequent staggering, and very defective articulation. By some physicians these were regarded in a very serious light, as portending apoplexy or general palsy. I however gave it as my decided opinion, that they were entirely symptomatic; and accordingly, they were sensibly relieved by the mercurial laxatives, &c. and in a few months wore entirely away.

I have seen obstinate and long continued wakefulness, with mental disorders bordering on mania, arising from a similar condition of the digestive organs. Purgatives, followed by the conjoined use of mercury and aperients, blistering, Dover's powder, &c., have succeeded in relieving these troublesome symptoms.

It is well known that temporary blindness, *muscæ volitantes*, transient vertigo, palpitations, &c. are very frequently produced by disorders of the digestive organs; and some of these symptoms are occasionally experienced, perhaps by the greater proportion of adults.

I remember a case of a gentleman who was labouring under the influence of *marsh effluvia*, where that cause stopped short of the production of fever; but gave rise to spasm of the biliary ducts, or to some obstruction in the liver, marked by constipation, and a considerable degree of jaundice. This condition was removed in a few days by active mercurial purgatives; but during the whole period a degree of vertigo was experienced, which deprived him of the power to sit up, even in bed; though his muscular strength seemed to be but little diminished, and his general health was little affected, with the exception of the symptoms above stated.

The importance of attending to the great irregularities in the circulation liable to attend on diseases of the liver, may be illustrated by a case which has fallen within my own knowledge. A physician of great experience and high reputation, was called to consult with a junior practitioner, on a case of this kind, accompanied by remarkable irregularities of pulse, &c. In opposition to the opinion of the latter, he pronounced the case an organic affection of the heart, and prognosticated impending dissolution. The other medical attendant persisted in thinking the disorders of the pulse to be symptomatic of hepatic disease.

The opinion of the latter being of course more agreeable to the patient and his friends, the case was treated according to his views: a speedy and entire recovery followed, and the patient has since enjoyed many years of health.

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ART. II. *Case of Chorea.* By RICHARD N. ALLEN, M. D.  
*Belair, Harford County, Maryland.*

**EDWARD ASHTON**, aged about twelve years.—Pains in the abdomen, particularly through the hypochondriac regions—occasional attacks of nervous affection, with unsteadiness of the whole muscular system, to such an extent as to render the patient unable to remain still for a single moment. Both sides affected, but the right arm and leg chiefly; these limbs appearing, in the intervals of motion, to be nearly paralyzed. Complexion pale, pulse weak and quick. The organs of speech are so much affected as almost entirely to destroy the power of articulation.

The patient suffered an attack somewhat similar, about four years ago, which was relieved by the discharge of a great number of worms; but the disease has existed at intervals ever since.

My attendance was commenced February 23d, 1827. The treatment was begun by vermifuges, followed by an active mercurial cathartic. A tonic of tinct. ferri. muriat. and tinct. assafoet. ordered three times a day, after the operation of the cathartic. March 2d. Five or six worms were discharged during the operation of the cathartic; but no benefit seemed to have resulted from that or the subsequent tonic. The convulsive movements were all aggravated—general condition the same—appetite unimpaired from the first.

The vermifuges and cathartic were repeated—cold bath after their operation, to be repeated every morning—

Pulv. cinchon. gr.  $\times \times v$ .

Rubig. ferri. gr.  $\times$

} three times a day—

nutritious diet—opium gr. j at bed time every night, to obviate an obstinate wakefulness.

March 6th. Only three worms were discharged by the operation of the last cathartic, and no immediate relief followed. The cold bath and tonics seemed already to have produced decided benefit; and the opium had broken the habit of wakefulness.

March 8th. Spasms greatly relieved, and general health better. Same remedies; except that the opium was omitted—to be resumed only in case of inability to sleep.

March 10th. Better.—Same remedies.

April 6th. The same remedies were continued since the 10th of March. The muscular movements were now much steadier, and the speech greatly improved—neither were performed by any means perfectly.

Oxyd. zinc. gr. j.

Pulv. valer. gr. viij.

Pulv. cinchon. gr. xv.

} three times a day—

cold bath continued.

These remedies were steadily used till May 11th., at which time the speech, and every variety of muscular movement, were performed with perfect correctness, and the patient was in every respect well. He has continued in health up to the present period—an interval of nearly two years and a half.

*Remarks.*—In this case the original disorder in the nervous system which gave rise to Chorea, seems to have been produced by irritation in the alimentary canal. By the removal of this irritation, it was partially relieved; but the general disease continued to exist in a diminished degree, through an interval of four years. Throughout this period, and also at the time of my attendance, the appetite was good, and the functions of the intestines regularly performed. The disease thus appears to have been continued independently of its primary cause; though the remarkable aggravation experienced about the time when I was consulted, seems to have been connected with abdominal irritation.

As the functions of the intestines were afterwards regularly performed, and the abdominal symptoms did not continue, there appeared to be no indication for the continuance of a purgative plan, or even for the use of aperients or alteratives. It will be seen that the happiest effects immediately resulted from a generous diet, the cold bath, and tonics. To the variations in regard to the individual tonic remedies employed, I am not disposed to attach any importance; I have no doubt that the same plan would have succeeded by proper perseverance, however modified.\*

I have no doubt that a large proportion of cases of chorea would be most successfully treated by the purgative plan recommended by doctor Hamilton, of Edinburgh; but it seems

\* It must however be acknowledged, that there is a great preponderance of evidence in favour of large doses of the carbonate of iron.

evident to me, and I believe is conceded by the great body of the profession, that in the introduction of his great improvement into modern practice, the author was disposed to generalize too far, in favour of his plan.

In cases where symptoms of intestinal irritation, or of disordered secretion from the liver, constitute the prevailing features of the constitutional disorders connected with chorea, I should be disposed to resort to the purgative and alterative plan; but where the disease is marked by general debility, a nutritious diet, with tonics, and the cold bath, would seem to be as clearly indicated. In case of the coexistence of irritation and debility, there can be no objection to the combination of these plans, or to employing them alternately, according to the existing indications.\*

\* [We are much pleased with the correct and lucid view which our correspondent has taken of chorea, and of its treatment. We have seen a good deal of this disease, and our experience leads us to believe, that, it is generally manageable, by correct treatment; but that it sometimes baffles those inexperienced in its peculiarities; often resisting medical treatment for months, and apt to relapse for years. We have seen one case which resisted the skill of different physicians, some quacks and old women, and eventually gave rise to violent tetanic symptoms, the contortion sometimes so violent as to cause the little patient to bound up, entirely free from the bed on which she lay. This case, after resisting almost every variety of treatment, terminated fatally—patient a female, aged about seven or eight years.

We well recollect the case of a brother, about eight years of age, who was attacked with this disease, shortly after a severe fall on the ice, which was supposed to be the exciting cause of the disease. The disease existed in the left side, and much affected the speech—the patient delicate; and, when about two years of age, the subject of rickets, which produced considerable bending of the bones, but from which he had entirely recovered, excepting a debility of constitution. This case was treated, by first giving an active cathartic, next day a gentle emetic, followed five or six days with a weak solution of the tartrate of antimony; and this, again, succeeded by tonic bitters, and pills of iron filings, myrrh, and assafœtida, in conjunction with the cold bath. We distinctly recollect the particulars of this case although it took place about 35 years ago.

In the year 1797, the year of commencing our practical career, we were called to a case of chorea which excited a good deal of clamour, in a German neighbourhood, where witchcraft was somewhat in vogue: but the father ascribed the disease to over exertion in chopping wood, the patient being a delicate boy, about 12 years of age. This case was treated precisely as the one we have already mentioned, excepting that, we here added an infusion of valerian to our other treatment. The disease soon yielded to this plan of treatment. Sometime after the case had been dismissed, the boy had a slight return of the symptoms—these yielded readily to the cold bath alone.

Since the occurrence of the above case, we have been repeatedly disappointed in the employment of the tonic plan, in cases which we thought indicated that course. In addition to the tonics already mentioned, we prescribed the arsenite of potash, nitrate of silver, sulph. of zinc, bark,

In conclusion it may be proper to observe, that though in the case just related, internal remedies were discontinued at the period of my last visit, yet the cold bath was continued for a few weeks after the cessation of the symptoms.

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ART. III. *Case of Dislocation of the Ankle joint, with fracture of the Fibula.* By RICHARD N. ALLEN, M. D. of Belair, Harford County, Maryland.

ON the 10th of October, 1827, the accident occurred which is the subject of this paper. The patient was Mr. James Gover, a tall, stout, and vigorous young man, who was in full

valerian, &c. Sometimes we have succeeded by alternating some of these with the purgative plan. Sometimes we have found tonics either useless or hurtful.

We treated a remarkable case of chorea, three or four years since, in the person of a delicate little girl, then about seven years of age. Owing to a delicacy of habit, and a palor which had existed sometime in consequence of the child's being neglected during her absence from home, we commenced with the usual doses of nitrate of silver—it was very soon evident, that it was doing her harm. The purgative plan was substituted, and soon convinced us that the biliary organs were deeply concerned. She took for several weeks, not less than eight or ten, almost daily, five pills, of the following formula. R. Aloes, Rhub. Jalap. Submur. Hydrar. aa. one scruple Pil. no xxxij. These usually produced four or five stools during the day, presenting all the shades of what are called bilious stools, from the black, down to the various shades of green, which we see in slighter bilious affections. While this condition of the alvine discharges continued, we felt no doubt of the propriety of our plan of treatment, but in addition to this circumstance, so evident was the improvement, although somewhat slow, that no one could be insensible of the fitness of our plan, in this case, however extraordinary it might at first sight appear, that a child so young and delicate should improve in health and strength, under the daily use of nearly four grs. of aloes, jalap, rhubarb and calomel. Contrary to our original expectations, she required no tonics, but continued her pills until the evacuations became natural. During all this period, her diet was light, though sometimes rather of the nutritive kind.

We fully agree with doctor Allen, that in most cases, doctor Hamilton's plan will be found to succeed best—that there is no particular preference for one tonic before others—that skill consists in suiting our tonic, and our depletory plans, to the peculiarities of cases, depending upon the one, or the other, or alternating them as the case may require; while, we at the same time recommend a regimen corresponding with our indications, making it of a reduced, a generous, or of some intermediate quality, as the circumstances of each case, may seem to require.

Since this note was written, doctor Allen has sent us a note in which he gives a preference to the carb. of iron—our own experience stands as we have stated.] Editor.

health at the time of the injury. This was received by the fall of a tree.

The fibula was broken three or four inches above the ankle; the head of the tibia was torn completely off from the tarsus, and protruded on the inner side of the foot; and the ligaments and integuments were torn away from fully half of the circumference of the joint. The head of the tibia had been thrust out with such violence, that it had stuck into the ground, and was covered with earth and leaves. The foot had the appearance of being almost torn off, hanging loosely by the remaining integuments on the outside of the limb.

In order to facilitate reduction, a quart of blood was taken from the arm, and a very large dose of laudanum was given. Long continued extension with all the force of three men, was necessary to effect reduction, which was of course attended by the most excruciating pain. This was accomplished in about five hours after the accident. A small portion of the inner malleolus was found to be scaled off from the tibia. The reduction was maintained by the apparatus of Desault for fractures of the leg, as modified by Hutchinson.

The patient was afterwards treated in the usual way, by depletion, the strictest antiphlogistic system, and cold saturnine lotions; opiates being also rendered necessary by the violence of pain.

On the day following the accident, his situation was such as might have been expected in a case of ordinary wound of the same extent; but on the 12th the pulse became alarmingly accelerated. On this and the three succeeding days, the pulse ranged from 120 to 160 in a minute; the limb became enormously swollen, and on the 14th was covered with livid spots, indicating the approach of gangrene. The lowest diet was now continued, with refrigerants, and opium in large doses. The limb was covered with carrot poultices, moistened with a decoction of white oak bark, and renewed every six hours. It was of course necessary to remove all bandages from the limb; and the subsequent circumstances of the case rendered it impracticable again to apply any apparatus. The tumefaction of the limb gradually subsided in a few days, but the foot became again drawn outwards, and a portion of the head of the tibia protruded inwardly through the integuments. The protruding portion constituted about one half of the articulating surface, and the foot was of course thrown outwards, in an oblique direction from the leg. Extensive ulcerations and abscesses were formed on the outside of the leg and foot, which

precluded the application of any apparatus, and rendered the displacement irremediable.

Under these circumstances it was thought impossible to preserve the limb, and amputation would probably have been resorted to, but there was no period at which the state of the constitution was such as to enable us to perform it with safety. While we waited for the occurrence of such a condition, the case assumed a more favourable aspect, so as to remove the appearance of any necessity for such an operation.

From about two weeks after the accident, a most profuse discharge occurred of very fetid pus, and continued for about a month. During this interval, considerable emaciation took place, the system was in a state of high irritation, and the pain was almost constantly violent. Under these circumstances, the chief remedies employed were bark, opium in doses sufficient to procure occasional relief from pain, and small doses of castor oil or rhubarb, when required by the state of the bowels. A freer diet was at the same time ordered.

Under this course the suppuration gradually diminished, granulations arose over the protruded portion of the tibia, and the general health improved.

In about three months after the injury, the protruding portion of bone exfoliated, and the wound afterwards gradually closed. The patient has entirely recovered, with the foot a good deal distorted outwards, but so firm and useful, that he can walk very well, without crutches, or any other artificial assistance.

Before concluding this narration, I must add, that in the reduction, I had the assistance of doctor John Sappington of Deer Creek; and during the subsequent treatment, the continued and able advice of doctor Robert H. Archer.

*Remarks.*—In this case life was evidently exposed to the most imminent danger; and indeed on the 14th, the condition of the limb and of the general system, when considered together, seemed to allow very little expectation of recovery. It is evident that danger might have been almost entirely avoided by amputation immediately after the accident. Whether under such circumstances, an attempt should be made to save the limb, at the evident hazard of life, is a very delicate question, and one which perhaps can never be settled by any definite rules, but must always be left to the discretion of individual practitioners, subject to be controlled to greater or less extent, by the wishes of the patient and his friends. The comparative importance of life or limb, when the chances for either have been fairly stated by the surgeon, is a subject which

may properly be devolved on the discretion of the patient. Cases like that before us are radically and necessarily uncertain; and a course strictly proper on the best rules of surgery, may, by subsequent events, be proved to have been injurious. To determine with certainty on the most beneficial practice, would require not only a correct judgment in reference to existing circumstances; but also a knowledge of future contingencies, which no human sagacity is competent to foresee. In this case, had the state of the health allowed, we should probably have amputated, as soon as we found the partial displacement of the joint to be irremediable. This might perhaps have been correct practice, but the event shews that it would have been injurious; by increasing the danger, and causing the loss of a very useful limb.

The resources of nature were very curiously developed in the progress of recovery. At first granulations arose over nearly the whole surface of the protruding portion of bone; but the whole mass, with the granulations upon it, was afterwards thrown off. It would seem that the designs of nature were changed from that of covering and preserving the bone, to that of throwing it off by exfoliation; as in cases of injuries of the soft parts, there is first a struggle to preserve the functions of the part; but if this be ineffectual, it is thrown off by sphacelus, and a line of separation formed between it and the living parts. In speaking of the designs of nature, I mean only to express those various laws of self-preservation which have been impressed upon the living system by supreme intelligence. That the modes of action arising in conformity with this great design, are frequently vicarious of each other, is a well known fact, and appears to be illustrated in the cases of which I have just been speaking.\*

About nine years ago I saw a case of dislocation of the ankle almost precisely similar to that above detailed. The displacement had existed for about a week, and reduction had never been attempted. Amputation was then performed by the late doctor Bryarley of this county; but the man died from the consequences of the operation, probably aggravated by pre-existing debility and irritation.

\* By the term law, as applied to physical science, we mean nothing more than the invariable tendency of phenomena to succeed each other in a certain order, or to terminate in a certain result.



ART. IV. *Case of Stricture of the Urethra.*

By HORATIO G. JAMESON, M. D.

**I** was called to Mr. Dougherty of Harford county, in September, 1824—he had been affected about twenty five years, before I saw him, by a severe fistula in ano, and is now a little upwards of forty. After suffering several years from this disease, he was cured by a quack, by means of caustic. Soon afterwards the urethra became diseased; there was now and then slight obstruction of urine with pain of the bladder, also about the anus. For the last seven years, he has been troubled with the usual sufferings arising from slight stricture—sometimes attended with inflammation and severe suffering, so as to require the attendance of a physician.

Under the direction of doctor Dallam, he was relieved from time to time by the prompt and energetic employment of the usual antiphlogistic means. About twenty five days ago, his disease recurred with unusual severity—he suffered from violent spasmodic pains, and retention. Owing to his being an athletic muscular man, the doctor used a very active plan of treatment; but notwithstanding he lost, by the doctor's computation, at least twenty-five pounds of blood, in about two weeks, the inflammation terminated in suppuration, at the prostate. The warm bath, diluents, &c, were used as auxiliaries to the lancet, and after the system was much reduced, and febrile action overcome, the irritation and extreme pain continuing, large doses of opium were given—these, though given with freedom, soon lost their effect, in so great a degree as to leave his sufferings extremely great. The catheter had been used from time to time, with considerable difficulty and pain—an attempt was made to leave the tube in, but it greatly aggravated the pain and spasms, and could not be borne.

I found him on the third of September, 1824, extremely weak, with a full jerking very compressible pulse, and suffering the most excruciating pain, and bearing down of the muscles of the perineum, and anus—slightly comatose, and disposed to turn up his eyes. He passed a few drops of urine at intervals of not more than five minutes, in the intervals he lay in a stupid dozing way. The anus and the prostate as felt within were extremely sore—the bas fond of the bladder lay down much lower than usual, owing I suppose, to the constant straining down of the parts. The hypogastrium was very sensible to pressure, but there was no observable fulness. There being now much prostration, and having suffered from bilious

symptoms since his confinement, his physician, after proper preparation, has been employing bark for a few days.

The day before my arrival, a catheter was withdrawn, after remaining in the urethra forty-eight hours. Its introduction occasioned much pain, and its presence rendered the symptoms more violent than ever. I attempted to pass a pretty large silver sound, but could not get beyond the bulb—with a smaller I succeeded in reaching the bladder, but found the urethra quite callous and tortuous—this produced in a few minutes the most agonizing spasms of the parts affected. Having withdrawn the sound, I wished to pass in a flexible tube, in hopes of quieting the irritability of the bladder by injections of warm water, but the muscles having been excited to spasms, by the sound, I could not by any manœuvering succeed in passing in a tube of any size. It was now evident that nothing but an operation afforded any prospect of relief, I, therefore, gave the patient a large anodyne, intending to await the arrival of doctor Dallam. The patient had spent a very bad night, although he took two tea spoonfuls of laudanum. He vomited some in the morning, but ascribed it to the flax-seed tea—Pulse was feeble, but tolerably regular, great prostration, with slight appearance of coma. Doctor Dallam uniting with me in the opinion, that an operation was the only thing which promised the slightest hope, and that that was attended with very little hope of success, we agreed upon giving the patient a candid explanation of our opinion, and leave him to decide for himself. His suffering being great, he immediately decided on taking the chances of an operation.

The patient was tied as for lithotomy, a flexible tube was passed down till it met the stricture—an incision was made along the raphe of the perineum, about an inch and a half in length. The incision having exposed the tube which answered the purpose of a staff, a common straight director was now introduced into the strictured part, and, after a little patient manœuvering, it passed into the bladder. Owing to the swelled state of the prostate, it was found necessary to press the point of the director more than usually, upwards. I now satisfied myself of the certainty of its introduction into the bladder, by entering a finger into the rectum. This done, a very small scalpel was passed along the director until it entered the bladder, this being effected on the left side, the groove of the director was turned to the right side, and the scalpel again introduced. A finger could now be passed into the bladder, in doing this, I found that a considerable abscess had formed at the basis of the prostate, and upon the rectum; that the urethra was opened into this sac. Owing to this state of things, the catheter in

attempts to introduce it must have passed against the lower side of the neck of the bladder, or against the prostate gland—this accounted for the difficulty of passing the catheter, and also accounts for the pressure against the instrument, when the bladder was violently pressed down by the spasmodic strainings, which constituted the most distressing part of the patient's sufferings. At this time the principal swelling of the prostate was on the right side, which formed a considerable crook in the urethra, near its termination. But little hemorrhage attended: finding there would be no inconvenience from this quarter, which would have been attended with danger, in the reduced state of the patient, I introduced a large flexible tube, through the penis, into the bladder, and left it in, secured by tying it to the penis with a narrow strip of fine rag. Finding that some pus, and ropy stale urine passed through the wound, and through the tube, I threw in, by means of a syringe, some warm water—this afforded much ease at the time.

There had long been suspicions in this case, that there was calculus, owing to the patient's suffering much from the more usual symptoms of that disease, and to his having passed occasionally, small pieces of gravel, and, indeed, in my first attempts with the sound, I plainly perceived some gritty concrete. This was a strong reason for undertaking an operation, and I did not fail, while I had access to the bladder, to decide that point. I found the inner coat of this viscus much indurated, but there was no calculus. I ascertained however, that the middle lobe of the prostate had swelled and formed a projection like a nipple, standing inwards and upwards, (the body on the back.) The patient was but a few minutes in confinement. His alarm was great, and the pain severe, but his pulse bore up extremely well; and he expressed himself as being more comfortable an hour after the operation, at which time I left him.

He had been sustained in the operation by large anodynes, and I recommended their continuance—and that the bowels might be kept free by magnesia or salts—the bladder to be occasionally injected with warm water. I left doctor Dallam, to manage the case as varying circumstances might require, from whom I received the following information, a few days after my return home.

"He suffered little or no pain after you left him, but continued to doze, except when roused to take drink or nourishment. About 11 o'clock on Saturday night, he was seized with a puking of green bile, but was shortly relieved by taking forty

drops of laudanum; from that time he gradually sunk, and expired about 8 o'clock yesterday morning." "The family informed me, that all the forenoon on Sunday, he appeared easy, and thought that he would recover."

The readers of the late Philadelphia Recorder will recollect that I published several successful cases of operation for stricture, some of which were attended with very deplorable and dangerous symptoms. The success which attended those cases, together with the circumstance, which I have already mentioned, of there being strong suspicions of stone, and no possibility of sounding, fully warranted the operation in the above case, notwithstanding the late period at which I was called in, and the prostrated condition of the patient.

I have deemed it advisable to publish this case, because, I think the circumstances attending it, serve to show, that if the operation had been performed a week or two earlier, the patient would most likely have been saved.

The main conclusion which I drew from all my observations and reflections up to the time of my publication in the late Recorder, was, that we were fully warranted in subjecting patients to the operation of laying open the urethra, in cases of confirmed stricture with retention, so as to enable us to introduce a tube for the double purpose of giving present relief from pain and danger, and with the view of effecting a permanent cure. I have not had occasion to change my opinion—and so common are cases of dangerous retention, that I have been led to believe, that I cannot offer to the medical public a more salutary and important piece of advice, than that of advising them to give a preference to the operation, in view, in all alarming cases of retention, with permanent stricture. If we admit that the operation is not entirely free from danger, certain it is, that the danger of delay is far greater.

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ART. V. *On the effects of Tobacco, externally applied in cases of Strangulated Hernia.* By WILLIAM MACLAY AWL, M. D. Somerset, Ohio.

I spent an evening in 1827 in company with several medical friends, among other subjects of professional conversation, that of hernia was one—while considering the use and abuse of the tobacco enema; and particularly its occasional dangerous consequences; it was suggested by doctor Luckey, that its external application had some power; and the hint proving accepta-

ble; it was agreed upon further examination of the known therapeutic effects of the article, that we would severally give it a trial, in the very first case of strangulation that should occur in our practice. Doctors William N. Luckey, Thomas H. Gibson, Eli Dresbaugh, and myself, have since that occasion, each met cases; and communicated one to another the fortunate, prompt, and decided success of the experiments without a single failure.

My first case took place on the 25th of March, immediately then ensuing, and is succinctly as follows:—T. C. Esq. aged forty-five, a strong farmer, for some time subject to reducible hernia, sent for me in the greatest possible haste this morning—and having but three miles to ride, the next half hour brought me to his chamber. He was supported on the edge of the bed, doubled up in agony; his countenance pale, cadaverous, and covered with heavy drops of cold sweat. The hands were occupied in supporting the painful scrotum, and the cold trembling frame told how near was the impending dissolution. “You cannot save me doctor,” were his first hurried remarks; “it has been down six hours, further than ever, every thing has been tried, and it only grows more swelled and more painful every moment. You cannot save me, but you will exceedingly oblige me by writing my will.”

Upon an examination I found the scrotum distended apparently to its utmost; tense as a drum head; highly inflamed, and so painful from ineffectual applications of the taxis, that, the slightest movement was insufferable. The stricture could be plainly discerned through the integuments, and felt like a strong fibrous cord or band drawn across as with a machine; the circumambient parts, all swelled and painful. He had been vomiting, and hiccough began to show itself; pulse was missing.

I procured a large quantity of old strong tobacco (Kentucky plug) poured boiling water upon it, unfolded the leaves, and commenced lapping them round the tumour as warm, or rather as hot, as the patient could bear—having encompassed the entire bag with the tobacco three or four times double, I next spread of the leaves upon the surrounding parts and lower part of the abdomen in particular. In ten minutes the pain began to slacken; the usual sickening effects ensued very rapidly, and in a short time the soreness disappeared entirely. Uncovering the tumour it was found more pale and relaxed, but the stricture firm as ever. I again wet the leaves with warm water and added more of them; and covered the whole more closely, to prevent rapid evaporation. After a time the general languor

of the nauseous weed wore away, and did not return, nor did the pain. Upon a second inspection there appeared to be no stricture remaining, and the hernial tumour was easy, soft, and loose. I gently compressed the scrotal pouch within my hand, and the bowel retired into the abdomen.

*Remarks.* I have but few remarks to make upon this case—it will speak for itself, and requires no explanation, other than to observe that tobacco has a peculiar topical relaxing effect *independent of its constitutional and usual prostrating effects*, as it was attentively remarked, that these wore away before the local action of the article, constituting its direct importance, ensued. The joy which I experienced on the success of the experiment, was much alloyed by the reflection, that for want of this simple information, I had previously used the knife to cases, that would, under the tobacco management, have yielded as easily as did this one.\*

This information is perhaps given before its time, as I had intended at one period, to have waited for more cases, and have extended the use of tobacco externally, to some other affections, particularly tetanus, which, I feel confident it will cure, as likewise certain spasmodic conditions of the glottis—perhaps useful under certain circumstances of inverted uterus. However, be all this as it may hereafter, I at this time can vouch for the efficacy of tobacco in cases of hernia.

[\* Nothing would afford us greater pleasure, than, a confirmation of the opinion of our respectable correspondent, respecting the value of tobacco in the treatment of strangulated hernia. But, until we have further experience on this subject, we think, our friend may rest fully satisfied with the success attending the *tobacco treatment*, in the case he reports, without *reflecting* upon the employment of the knife. When we consider the nature of cases having two strictures, one at the lower aperture, and another at the upper ring, or opening through, the internal fascia, of which we have seen cases—that the parts protruded, may have attachments to the membranes of the cord, before we are called—that sometimes the stricture is in the herniary sac at its neck; that a watery secretion will sometimes take place, as we have seen, within the intestine, which lies in the scrotum, so as to stuff it as tight as a liver pudding—that when portions of omentum are gangrenous, or gangrene of the intestine exists, &c. we should have to look back upon time, employed in the use of tobacco, with more poignant feeling, than can attend upon an expedient, which, though painful, is known to be safe, as is the use of the knife of the skilful surgeon. We have often had to regret, that we operated too late, but never too early—we have never lost a patient but one, where the operation could be said to have been in time.

We are far from wishing to oppose the trial of tobacco: indeed, with our present views, we should think ourselves blameable, if we were to take up the knife, before giving the tobacco a full and fair trial; and, we are much pleased, to have a fact, promising so much to lay before our readers; and shall not fail to report our experience, so soon as opportunity may enable us to test the practice of doctor Awl.]

Editor.

ART. VI. *Case of Osteo Sarcoma.* By HORATIO G. JAMESON, M. D. *Professor of Surgery in Washington Medical College, Baltimore.*

I was called on the 14th of March, 1824, to take charge of a case of osteo sarcoma, in the person of a female accustomed to the usual employments of persons who do their own house work—constitution though good, may be said to be rather delicate. She completed her fifteenth year last May, and it may not be amiss to remark in this place, that she possesses not only an irreproachable character, but is highly esteemed by those who know her best for her superior worth.

In the month of August, she had a severe attack of bilious fever—about ten days after she became able to walk, she began to complain of a pain in her right arm; as near as can now be ascertained, it was confined about the insertion of the deltoid, and returned at irregular intervals, accompanied with sensations as though the limb had been fatigued. About this time and for a little time afterwards, she was affected every day with a fainting fit, would swoon away and fall asleep, and if left alone would sometimes sleep till the next morning, and then awake refreshed, and remain comfortable during the forenoon.

These paroxysms soon went off, and she regained her usual health, except more or less pain in her arm; but it was not such as to induce her to request any medical aid, till sometime in November. Still she daily felt more or less of the pain, particularly after any moderate use of the arm, in washing or lighter employments of the house. She had been bled during her illness in August, and she attributed the pain of her arm to the bleeding, but there was no soreness of the arm to justify such an opinion.

Sometime in the month of November, doctor Jennings was consulted in the case, who supposed the pain most likely to be rheumatic. Some stimulant liniment was applied, but the pain regularly progressed, and when seen a second time by the doctor, a hard deep seated swelling was observed about the upper third of the arm. The arm was enveloped in a blistering plaster. This afforded no relief—on the contrary, the disease was now manifesting its character rapidly, so that by sometime in December, the arm had swelled to a considerable size, and had become extremely painful. Discouraged by the want of success from the measures already mentioned, her parents were induced to carry her to an old woman, who is

much known in this neighbourhood as a famous cure of old sores, &c. This woman, having no knowledge of the nature of the case, commenced a course of poulticing, with a view of promoting suppuration. Finding after sometime that she could make no progress, but that the patient was rapidly growing worse—the arm enormously swelled—the pain agonizing, and feeling here and there as though it would suppurate, and again becoming hard, she had sense enough to know that she knew nothing about it; and as the patient was poor, it required but a small share of honesty on her part, to say, they had better employ a doctor. Having been abandoned by this old woman of the CAUSTIC, application was again made to doctor Jennings, who now saw the untoward character of the disease; but the appearances of suppuration were so strong as to induce him to direct a poultice rendered stimulant by the addition of onions—gave Dover's powder, &c. While he was deliberating over the nature of the case, and feeling a wish to have my opinion on it, the patient was seized by a severe spasm, which induced the family to send for me. The upper arm was swelled so as to form, at its superior extremity, a tumour of great size, surrounding the bone which passed nearly through the middle of the tumour, leaving but a little prominence on the upper side of the humerus. The whole swelling presented a tumour of a balloon shape, having its small end downwards. The skin from a little above the condyles of the humerus to its head was red, and had splotches of a faint purplish cast—many dark blue veins visible in the skin—several spots felt as though they were about to suppurate, and indeed, an inexperienced person would suppose that suppuration had taken place. The swelling pressed high up in the axilla, and was very hard where it was not covered by muscles—the axillary, and upper part of the humeral artery, were very superficial, and could be felt beating strongly. The bone, just above the condyles, where there was not much swelling, (of the muscles or other stricture,) felt rough, and somewhat enlarged, and, I thought, there was a curvature in the bone; this last may, however, be owing to the shape of the swelling surrounding the arm above. When I considered the rapid growth of this tumour, its commencing close to the bone, (if not immediately out of it,) the peculiar irregular periodical shooting pains deep seated, and the hardness of the swelling in the axilla, carrying up the artery near its surface, I was then satisfied, that it was a case of the malignant exostosis of A. Cooper—the osteo sarcoma of Boyer. On the 16th, I again visited the patient, and found that the tumour had increased in six days, since measured, by doctor, Jen-



nings, in its circumference three inches. I now felt more satisfied that the disease was osteo sarcoma, but it might be fungus hematoides, or malignant sarcoma.

On the 23d, I again saw the patient, in consultation with doctors Jennings, Bain, and Buckler, I understood all the gentlemen to agree with me in the opinion of the disease being osteo sarcoma.

It may be proper to mention here, that at my last visit, I gave the patient and the family explicitly to understand, that nothing but amputation could save her life, that even that was uncertain, and I was not willing to say positively, whether I would amputate at the shoulder, admitting I had their consent—that if they would decide whether she should avail herself of that measure, I would obtain a consultation of some of my friends in the profession, and then carefully weigh all circumstances for and against the operation. The family did not decide till the 22d of the month. On the 23d, as above stated, the consultation met. After a free exchange of opinion, we were all of the opinion, that the operation which I mentioned on the 14th, afforded, now, but little hopes of being successful, owing to the liability to reproduction, &c. Not willing, however, slightly to abandon a case so interesting, as well to the profession, as to our feelings of humanity, we concluded on returning to the patient the next day, with the addition of doctors Donaldson and Handy.

On the 24th, present doctors Donaldson, Handy, Bain, Buckler, Warfield, and Jennings. The same foreboding view seemed to present itself to the gentlemen as yesterday. All present admitted that there might be some uncertainty as to the precise nature of the disease, but all seemed to agree in the opinion, that it was of a malignant character. The general voice seemed to be against the operation, on every view of the case, but I was of the opinion, that, taking all circumstances fairly into view, the sum of suffering would be diminished, by an operation, and that it afforded a bare possibility of recovery, since some patients had recovered from operations, in cases of malignant tumours, and we might possibly be mistaken in our opinion as to its malignancy.

The patient strongly desired the operation. Doctor Donaldson suggested the propriety of explaining the nature of the case fairly to the patient, giving her our views as to the intention of an operation—that it would be performed without almost a shadow of hope of recovery, but with a hope of lessening her sufferings; that if she preferred it, on these terms, the operation might with propriety be performed. The patient wished,

after a fair explanation, to submit to the operation; time was given her to weigh the matter, till the next day.

25th. All the gentlemen named yesterday attended, with the addition of doctor Williams, of Virginia, and doctor Owings. Patient determined on the operation. Several of the gentlemen rather more opposed to the operation than yesterday, but all willing to submit to my decision, and to second my views with their presence and friendly aid. When I came to examine the arm, I found it had increased but little in size, in regard to its circumference, but it had extended considerably upwards. The infraspinatus, and teres major muscles seemed to be swollen and hardened—the humerus did not move freely in the socket—the swelling covered in some measure the acromion—the pulse was extremely feeble and frequent, patient somewhat confused, from the opiates probably, which she constantly uses.

Under circumstances so unfavourable, added to the circumstance of the patient's being two and a half miles from town, I was induced to decline the operation. I should have mentioned that the skin appeared to be slightly involved in the disease, so that, no flap could with safety be left.

At our meeting on the 25th, I made a puncture by means of a narrow bistouri, about five inches in depth, passing from about the middle of the triceps towards the centre of the humerus—no bone was encountered, but I felt a little cartilaginous structure, about two inches within the puncture, by a probe. Nothing but pure blood flowed, and that with some freedom, but there was no difficulty in stopping it, by applying a piece of adhesive plaster. To day, the 26th, the puncture has not inflamed, there is no discharge from it. This puncture led to other views of the nature of the disease, it may be spongoid sarcoma; but may possibly be one of those vascular tumours mentioned by John Bell, which are seated chiefly in the veins.

This view of the case did not suggest any thing new in regard to an operation. The extreme debility of the patient, the necessity of removing parts above the joint, and the patient being too remote from me, induced me to give up all thoughts of operating under such circumstances.

26th. Patient took opium freely last night, and was pretty tranquil during the night—about four o'clock, she became restless and very thirsty, and drank much cold water, had a severe chill, followed by a burning fever. Forenoon the fever had abated but her pulse was extremely faltering, rapid and feeble—mental powers more disturbed—pains of the arm not so violent, but the parts are becoming more sore. The skin is less

red on the upper part of the arm; a little extension in the circumference, but does not seem to have crept upwards.

28th. Has had a bad night, restless, and suffering at times, severe pains all over her body, and also a distressing spasm; inability to stand on the left leg, looks stupid; pulse as yesterday; arm a little more swelled in all directions, except towards the pectoral muscle. A thick serum is weeping from the puncture, and also through a small opening which has formed a little below it, where there is a small spot slightly raised, and looks abraded.

She has had none of those violent paroxysms of pain during the last two days, but the arm has become more sore. A few days ago, she desired when the pain was severe, to have the arm strongly pressed, now she cannot bear to have it touched. Her appetite has generally been pretty good, and she has not had much sensible fever—this morning her appetite has forsaken her, and she has been sick at stomach and vomiting.

29th. Had a restless night, with sick stomach and vomiting, not much pain—still some unpleasant sleepy feeling of the left leg, but can stand on it. To day at noon I find her pulse more firm, and much less frequent—aspect of the face more lively than it has been for four days past; arm very sore to be handled—swelling has increased in its circumference about an inch and a half since Saturday morning 27th, but I see no material alteration in regard to its rising upwards—the axilla is still free from swelling.—

30th. Patient was restless during the night, slept well this morning;—stomach composed again, and seems every way better this morning; pulse though feeble, is not near so frequent—countenance rather improved—not much pain in the arm, but it is extremely sore.—The puncture shows nothing unpleasant, but below and around it at some distance, are many vesicles resembling gangrenous blisters, filled with yellow serum.—The swelling has not increased upwards, nor in circumference, but has rather subsided, and feels more soft on the shoulder, and in the axilla. In the latter part, the tumour has evidently subsided, and leaves a strong appearance of the tumours' being encysted, forming there, when pressed, a sort of offset or hollow ring.

31st. Was restless last night, but had now and then some comfortable sleep—had yesterday evening a pretty severe paroxysm of pain and spasms. Aspect of the face good, and her amusing herself with a chicken, and tolerably cheerful; stomach in good condition. Tumour has increased about half an inch, more red; blisters remain stationary, tumour becoming quite

edematous. I can, on the inner and upper end of the tumour, easily press in my forefinger to the first joint. The skin soon recovers, but in rising up, looks purplish—considerable discharge of yellowish serum from about the puncture; the swelling is becoming dropsical, and the whole, exhibiting marks of a deficiency of vital energy of the part. Pulse in both arms more full than yesterday, with more energy, less frequent.

April 1st. Passed a tolerable night, had no return of severe pain, but the soreness of the arm increases. Countenance lively, better colour of the face; eats moderately; limb has swelled about half an inch; vesications increase; limb not quite so easily pitted, but it is still very soft and feels quite watery, discharges a good deal of yellow serum. Swelling on the inner part of the arm well defined, and the swelling no where extending upwards in any observable degree.

2d. Had a pretty severe spell of pain yesterday evening, but still a pretty good night, has a slight fever to day, but the pulse has more energy, with less frequency. Aspect of the face good; appetite reasonable. Arm has increased nearly an inch since yesterday, discharges a great deal of ichorish serum—vesicles still extending, and the place first blistered begins to look foul and broken, but no appearance of fungus. The swelling on the fore side rises up still more boldly, and keeps free from any union with the axilla or pectoral muscle—the tumour is also beginning to rise up in a similar manner behind, as if the disease was confined to the arm. Acromion and scapula more loose than some days ago, that is, the skin moves more easily over them. She has been carried on a litter to town to day, and bore the journey very well, being cheerful, having suffered no pain.

3d. Rested well last night; and has passed a more comfortable day than common; seemed much alarmed to day at the idea of an operation, and seemed depressed; pulse more feeble and frequent. Arm has swelled very little during the night; vesications have extended, and there is more appearance of sloughing. The disease seems still well defined, and confined to the humerus. The whole swelling is taking on an erysipelatous appearance, and looks as though it had been subjected a little time to the action of cantharides.

4th. Rested pretty well last night, but looks more depressed this morning—arm extremely sore, and the sloughing progressing. The swelling has extended much upwards since yesterday. The veins over the shoulder and sternal end of the clavicle, turgid and purplish—arm still more swelled. The arm still covered with vesicles, some of which, at the upper end

of the swelling are of a purple colour. This morning she complains much of a choking sensation, and has been spitting a good deal of blood, which induces me to believe that the affection of the throat may be dependent upon the disease of the arm.

5th. Patient slept well last night, looks desponding this morning; arm extremely sore to be handled. Vesication has not extended, but where the arm was sloughing there is a mass of substance which looks much like a fungus, but has not yet risen up. Pulse pretty good, and the disease has not advanced upwards.

6th. Did not rest well last night. Swelling has not extended upwards, but seems to extend downwards; the sloughing progresses very slowly, vesications seem to abate—arm a little thicker; pulse this evening feeble, and very frequent. The slough still shows some appearance of life, but no fungus sprouts up.

7th. Rested pretty well—arm slightly increased in size, does not extend upwards; less red, discharges a great deal of thin ichor. Slough is separating, no fungus, very pale; pulse feeble and very frequent; eats pretty well.

8th. Nothing new except more weak, and pulse quick and hurried.

9th. The swelling has increased a little; arm looks less inflamed, health, pulse, and appetite as usual. The slough is extensive, but progresses very slowly; discharge not improved, still considerable—hand much swelled and soft; no pulse perceptible, in the affected wrist. Swelling does not seem to extend upwards.

10th. Patient more debilitated, circulation much hurried; limb the same except, some increase of the swelling in the arm.

12th. Feels rather better, but the pulse is extremely hurried and feeble; arm discharges much fetid matter; forearm more swelled.

15th. Found her extremely prostrated, with great hurry in the pulse last two days; arm has sloughed completely, and shows no disposition to produce fungus; enlarges a little. Looks better, and she says she feels better; eats with a good relish this morning; but still I find her pulse very feeble and much hurried.

21st. The day after my last report she became much more comfortable; pulse less agitated, and more energy of countenance; no pain in the arm except when moved; tumour still sloughing away in places, while the main body of the swelling is still increasing; *it is now thicker than her body,*

*but its weight seems to have pulled it somewhat off from the trunk,* and there being no disposition in the disease to extend upwards, there is a more distinct line of separation, than at any time before, so that I am now clearly of the opinion, that there is nothing to forbid an operation, but the general debility, and that she has rather been improving the last few days. I again proposed amputation, to which she pointedly objected—she was carried home yesterday, but suffered no inconvenience from it. I cut away some of the slough with scissors, and directed lime water for correcting the fetor. Tumour now measures about thirty inches. One place about the size of a dollar, where the skin has sloughed, looks as though there was some tendency to fungus.

23d. Has not slept well since last account; arm still enlarges; swelling of the hand and forearm much abated; there are several large black spots which look as if they would soon slough out; pulse tolerably steady; she has a good appetite; looks pale, arm of a darker colour, and the veins over the clavicle and acromion, more turgid.

25th. Patient wakeful, very weak this morning; arm much larger, and is now shooting up fungus very rapidly from the bottom of the parts which have sloughed; the swelling seems now to have encroached a little upon the body.

27th. Seems to be every way worse: feeble, without appetite; arm much larger; bled freely to day, but soon ceased.

An accident having deprived me of greater part of my notes of the dissection in this case, I am unable to give the particulars, except from memory. I shall therefore briefly relate some of the more remarkable circumstances noticed. It was obvious from the appearance of the muscles on the posterior part of the scapula, that an operation would not have saved her, when last proposed, but it seems equally clear, taking into view the amount of increase of the tumour, and the sound state in which the structures of the shoulder joint were found, that, when first proposed, it would have been available. This opinion is strengthened by the fact of her bearing all the tortures of the disease, more than five weeks after the operation was first proposed by me, as the only alternative.

The muscles on the back of the scapula, were somewhat diseased, but not to any great extent; the arm, after taken off at the shoulder joint, weighed sixteen pounds. The humerus was not only destroyed, but was absolutely rotten, and in a state of putrefaction for several inches, having lost its continuity. The tumour was formed of a most unseemly mass, containing many bony, and fleshy masses, interspersed among unsound

substances, by which the tumour was made to resemble in its various parts almost every kind of malignant tumours we have seen. Here were blended appearances of spina ventosa, osteo sarcoma, mortification, fungus hæmatodes, and bloody tumours of various kinds.

We have thought this case worth recording, from the fact that its history seems to show, that this was a local disease, which would have been overcome by early amputation. If not when we saw it, certainly sometime previously, and it shews the danger of trusting in painful and obscure swelling, to any other than the most experienced surgeons.

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ART. VII. *Observations on the Surgical Anatomy of the Veins.*  
By SAMUEL ANNAN, M. D. *Extraordinary Member and Annual President of the Royal Physical Society of Edinburgh: Professor of Anatomy, and Physiology in Washington Medical College, Baltimore.*

No subject in the whole range of practical surgery appears to have been more generally neglected, than wounds of the larger veins; the arteries have attracted to themselves nearly the undivided attention of surgeons; and we have treatise upon treatise, great and small, good, bad, and indifferent, on the surgical anatomy, physiology, and management of arteries; while the veins, in their immediate vicinity, and presenting a larger and more formidable aspect, have been passed by, if not with contempt, certainly with calm indifference, as undeserving of notice. I have heard of a Professor of Surgery, who cuts and slashes amongst the veins, if they do not "stand clear," when he is dealing with the arteries, very much in the fashion of Murat amongst the Cossacks; and equally to the astonishment of all observers. In a case of axillary aneurism, produced by the reduction of an old luxation of the shoulder joint, reported in the American Journal of the Medical Sciences, with an engraving of the parts concerned, the important vein of the axilla is no more noticed, than if no such thing existed. Now although some may consider them very insignificant, compared with arteries, it does nevertheless strike me, that they are of considerable importance in the animal economy; and that the surgeon, when he comes in contact with them, during operations, should know something of their laws of healthful and morbid action, and the appropriate treatment; or at least

should remember that such tubes exist, and contain blood; and that it may be not altogether unnecessary or superfluous, to make some inquiry respecting their condition.

My thoughts have been forcibly drawn to the consideration of this subject, by a case reported in the 20th No. of the *Medico Chirurgical Review*; which occurred at St. Georges Hospital, London; and unless I am greatly mistaken, was grievously mismanaged. A review of the report of this case will form a suitable basis for the present paper.

A man wounded the femoral artery and vein, two thirds down the thigh, where they pass through the sheath formed by the tendon of the triceps adductor, by the slipping of a sharp pointed knife from a piece of wood, of which he was making a boat for his child; immediate and profuse hemorrhage succeeded, nearly producing syncope; which was restrained by his employer, with a fillet of coarse list; a surgeon was called, who, had him conveyed to the hospital in a coach; trusting to the fillet to command the hemorrhage; the fillet unfortunately slipped, and the "bleeding burst out afresh at the hospital door, and the passage, from that to the bed upon which he was laid in the ward, presented a kind of rivulet of blood." Before the house-surgeon could apply the key-press to the vessel at the groin, so much blood was lost, that he "lay on his back, in a state very nearly approaching to syncope, with the face and surface of the body blanched, the skin cold, and the pulse at the wrist very feeble and tremulous. Besides these symptoms, the patient had the yawning and feeling of sickness dependent on great loss of blood."

The imminent danger, in moving a patient under such circumstances, without applying a tourniquet, one would think, is sufficiently obvious. A string tied round the thigh, is very inadequate security from the evil consequences of a wounded femoral artery. A handkerchief twisted tight with a stick, forming the field tourniquet, if no better was at hand, would have answered the purpose.

"As the hemorrhage was commanded so completely by the pressure at the groin, it was thought by all present, that no sort of necessity existed for the tourniquet, which would tend to produce much swelling in the limb, and obscure the steps of that operation which the surgeon would probably perform." "The pad slipped in some way or other" before Mr. Keate, the surgeon, arrived to commence the operation; and a second time during its progress, more or less blood being lost each time, and they then thought it prudent to have recourse to the tourniquet. I strongly suspect that the bleeding in both instances, did not



proceed from "clipping of the pad of the key-press;" it requires considerable pressure at the groin, to arrest completely the flow of the blood; and the muscles of the arm soon become wearied; and relaxing a little, the blood rushes past: then when we consider, that the attention of the person compressing the artery must necessarily be somewhat attracted by the operation going on, we perceive the impropriety of trusting to any thing but the tourniquet, wherever it can be employed.

There certainly was an exaggerated apprehension of "obscuring the steps of the operation, by producing swelling of the limb" from the use of the tourniquet. In applying that instrument, the superficial veins are first compressed; next the deep seated, and lastly the artery; but the time which passes between the obliteration of the veins and artery is so short, that but very little tumefaction can arise; and if the arteries do continue to contract and force their blood into the veins, the diminished size of the former, must exactly counterbalance the enlargement of the latter. In this case, however, the femoral vein was wounded, and consequently, neither it nor its branches could swell. Admitting that there might have been some tumefaction rationally expected, it perhaps not being possible to ascertain whether the vein was injured, still as the great danger was from hemorrhage, the most effectual means should have been employed for its prevention; and of two evils, choose the least.

While making the external incisions, "the vena saphena major, or a branch of it, was wounded, and bled pretty smartly, though the bleeding was readily controlled, by pressure with the finger." Mr. Keate, slit up the tendinous sheath of the muscle, and tied the artery above and below the puncture; but on unscrewing the tourniquet, "venous hemorrhage again burst out, and afraid of trusting to compression alone, in the patient's exhausted state, as well as despairing of tying the vein by itself in the midst of such effusion of blood, in so deep a situation, the aneurismal needle was again introduced, armed with a double ligature as before, the threads separated, and both artery and vein tied together, above and below the former ligatures on the artery alone." After the operation, the pulse was but little weaker than at its commencement. The limb was rolled in flannel, and some weak wine and water, and afterwards tea administered for drink. This was on the evening of the 3d; he died on the evening of the 7th; and dissection exhibited the limb in a state of mortification.

In commenting on the above case, I do not think it necessary, to discuss the question, whether the risk of mortification after

the ligature of the main artery of a limb, is greater when the operation is performed on account of a wound, than when it is performed for aneurism. To me it is evident, that it must be greater; inasmuch as in aneurism, the collateral branches have been gradually enlarging, and undergoing preparation to carry on the entire downward circulation of the limb, during the progress of the disease; the blood having been more or less obstructed in the principal channel.

The most interesting point of this case, is the management of the wounded vein. It was thought proper to apply a ligature to the vein, above and below the wound; and the reporter of the case, says, "that were the accident to occur to himself, and the vein to bleed, as it bled that night, he would certainly entreat the operator to place a ligature upon it. Such a proceeding, if it have any injurious effect at all, must have it by exciting inflammation in the tube—by producing phlebitis. In the present case, no such phlebitis ensued, and the cases we have witnessed, lead us to conclude, that the deep seated veins are not so liable to inflame, as the cutaneous, either after injuries or operations. The application of the ligature, which, on the saphena would be fatal, may be used with comparative impunity to the femoral, deep in the thigh. Every one must have noticed how frequently veins are secured on the surface of stumps, and yet how rarely this is followed by any bad effects."

The reporter appears to have entirely overlooked the necessity for a returning circulation—that if blood is sent down below the knee to nourish the leg and foot, the larger portion of it must return by some course; otherwise its stagnation in the vessels is followed by mortification, as certainly as if no blood was sent to the limb. Now I should like to be informed, if the femoral vein is tied, how the circulation is to be supported. The fibular, the posterior and anterior tibial arteries, have each two *venæ comites*, which uniting, form the popliteal vein, into which the saphena minor generally enters; so that a ligature on the femoral vein, interrupts the return of all their blood. There is an inosculation of the saphena minor and major veins, which may serve to carry on the circulation of the surface; but there is no connexion of the deep seated, with the superficial veins, that will effect the return of the blood distributed to the muscles and other deeper parts; hence we find in the above case, that "the deeper muscles were completely rotten." Even if it was possible for the saphena major, to receive all the blood sent to the leg, by the superficial arteries enlarging so as to allow its passage

through them, in consequence of the obstruction to the deep circulation, still this would not prevent the mortification of the limb. Destruction of the femoral vein then, is of necessity, the death of the leg; and a moment's reflection would inform any tolerable anatomist, that it is unavoidable. In the above operation, they also cut the saphena major vein, as they suspected; this to be sure was not of much importance, as they subsequently tied the femoral vein; but with all the veins destroyed, how they could expect to save the limb, is to me inconceivable.

With respect to the question, whether the deep seated veins are less likely to inflame, than the cutaneous, on the application of a ligature, I conceive that the examples adduced, are not fair illustrations, owing to diversity of circumstances. The femoral vein after amputation of the thigh, is in a very different situation from the saphena when tied for varicose ulcers of the leg. The vitality, and consequently the susceptibility of inflammation, of the femoral, has been greatly diminished by its amputation—its vasa vasorum, have been divided, and their circulation destroyed, at the point where the ligature is applied;—and we may suppose that inflammation, when it does appear, arises not so much from the pressure of the ligature on a part, possessing but little vitality, as from the irritation of the clot of blood, which plugs the vessel above the ligature. When the saphena is tied, both causes unite in the production of inflammation.

In Mr. Keate's case, we are assured, "that if the ligature of the femoral vein has an injurious effect at all, it must be by producing phlebitis;" and then we are gravely informed, "that no such phlebitis ensued." After losing so great a quantity of blood, it was not probable that any "post mortem" appearances of inflammation would be exhibited; the blood would be so pale, from the relative increase of the quantity of serum, that it would be incapable of manifesting an augmented redness, even where inflammation existed.

The question then presents itself, what is to be done in such a case? How is the vein to be managed! Tying the vein and interrupting the returning blood, is necessarily fatal to the limb and to life.

Mr. Travers relates a case of a small wound of the femoral vein, accidentally made in tying the artery, for popliteal aneurism; which was closed by nipping up the coats and applying a ligature round the opening; the man died of inflammation of the vein up to the bifurcation of the cava. Doctor Jame-

applied in any manner, is almost certain to cause that continuous inflammation of the lining membrane, moving on towards the centre of the circulation, which generally terminates fatally; or certainly obliterates the vein, by interstitial deposition; thus destroying the limb. What difference might arise from the employment of the animal ligature, is as yet purely conjecture. In the sheep, the passage of a tapering string of soft buck-skin through the vein, in doctor Jameson's\* fifth experiment, was followed by inflammation, terminating in gangrene; with contraction of the vessel, that would have gone on to obliteration.

So far as our information at present extends, the only chance of saving the limb, is afforded by endeavouring to procure the formation of a clot, to plug the opening in the same manner as after venesection; in this way we escape nearly all risk of continuous inflammation of the lining membranes, with interstitial deposition, and obliteration of the tube.

A dossil of lint, supported by a compress and moderate pressure, in conjunction with perfect quietude, is probably the best application; treating the wound precisely as if it had been made with the lancet, for the abstraction of blood.

Sir Astley Cooper once saw the axillary vein wounded in removing a scirrhus gland from the axilla; and the application of a dossil of lint prevented bleeding, and the patient did well.

\* We think no legitimate conclusion can be drawn from this case, as to the effects which may attend the use of a "fine" ligature of buckskin—That passed through the vein, in "experiment fifth," was a thick string drawn in tight. But we have said, in speaking of our *fifth experiment*, that this animal had been the subject of *experiment fourth*—and, in the *fourth experiment*, it is said that "we tied the left carotid low down, in a sheep; at this part the vessel lay deep; and a good deal of violence was done to the parts, before the artery was fully exposed. This animal was extremely wild, seemed unwell, and would not eat freely before operation."—"On the sixth day, this animal died."

"We trust the views presented by doctor Annan, in relation to this much neglected and highly important subject, will elicit further inquiry, and lead to experiment among the profession.—Should we not be anticipated, we purpose, soon as leisure may permit, giving some attention to this point in particular, that is, the best method of treating wounds, if veins which serve as the only conduit through which the blood of an entire limb can be returned to the heart.

Such being the importance of the integrity of some of the larger veins, surgeons cannot be too cautious in their operations upon the arteries. Such an accident has never befallen us, if it were, with our present views of the subject, we should consider it as bringing with it all the censure which may attach to a surgeon, who, under circumstances which admit of relief, deprives his patient of that chance, by doing that which every competent surgeon can avoid; by the necessary caution.

There is much greater probability of this method succeeding, when the wound is longitudinal or oblique, than when it is transverse. The muscular fibres of veins are longitudinal; not circular, as those of the arteries; consequently there is but little, if any, separation of the edges of a longitudinal or oblique wound; and we find, that such wounds do not pour out much blood, unless the vein is compressed nearer the heart; the reverse of which is true of the transverse wound; it pours out quantities of blood from a gaping opening, without pressure.

There is a great difference between the venous and arterial tubes, as to the tendency of the blood to escape through an artificial opening. In the artery, the muscular fibres being circular, the longitudinal wound is the most gaping; but it does not matter a great deal, in what direction the opening may have been made; inasmuch as the powers moving the blood, all unite to propel it through the new passage. First, the heart, as a pump, drives on the fluid; and whenever the resistance is diminished at any one point, the relative amount of power expended there, is greatly increased, and there is a rush to that spot; when one of the pipes conveying water through our city, gives way, there is a tremendous rush from all quarters, through the new outlet; then the elastic power of the arteries, constantly tending to diminish their calibre, and assisting in the propulsion of their contents, is now employed in assisting the heart to direct the fluid to the point which has yielded; in addition to these two powers there is the muscular contraction of the artery itself, simultaneous with that of the heart, diminishing the calibre, and pressing out the blood; the combined operation of these three forces, upon the artificial opening of an artery, causes the blood to spout out in a torrent, corresponding with the alternate contraction and relaxation of the heart; the muscular contraction of the artery assists the systole of the heart in producing the jet; the elastic contractile power, keeps up a moderate flow, during the diastole; as the vessel contracts, and reduces its diameter, the quantity discharged is lessened; but aided by the undulatory motion communicated from the heart, is still sufficient effectually to prevent the formation of a clot to plug the orifice; if a clot does form during the comparative quiescence of approaching syncope, on the appearance of reaction, it is forced out, and it becomes necessary to obliterate the vessel, by pressure, or ligature. Fortunately the lining membrane takes on the adhesive inflammation, which does not extend beyond the immediate vicinity of the injury.

The physiological laws of the veins, are entirely different.

They are in a great degree passive tubes; making but little pressure on their contents; almost quiescent; and what is of chief moment, in relation to their wounds, having a power acting upon them, seated in the heart and lungs, whose tendency is, in popular phraseology, to suck the blood past the wound, and draw it towards the heart, with greater force than their elasticity tends to propel it through the artificial opening; neither has the *vis a tergo* any particular preference for the route through the new passage; it acts in the line of the canal; and indeed is more likely to drive the blood towards the heart, than in any other direction; thus when a given particle of blood, arrives at a wound of a vein, instead of all the forces which act upon it, uniting to favour its exit from the vessel, as is the case in a wounded artery, their direct action is to keep it in, and move it on, in its usual course. Hence we find that the wound made in venesection does not pour out much blood without pressure above, unless it is nearly transverse; or one of the deep seated veins anastomoses with the superficial vein, near the opening.

From the above view of the physiology of the veins, we perceive how rationally we may expect to command the hemorrhage, from longitudinal or oblique wounds of even the larger of those vessels, by a dossil of lint, properly supported by a compress and bandage.

If the wound should be transverse, and the opening large, so as to make it impracticable to arrest the flow of blood, and the patient's life be threatened, the only resource is amputation of the limb.

It is worse than useless to tie the femoral vein; for laying out of the question, the more remote danger from continuous inflammation of the inner coat, the interruption of the returning blood will inevitably cause mortification of the leg; and immediate amputation is greatly preferable.

In the case at St. George's Hospital, if the bleeding could not have been restrained by lint and gentle pressure so as to preserve the venous tube, the limb ought to have been amputated forthwith; and I must be permitted to say, that I have not seen the history of any case so discreditable to British surgery.

Apart from the risk of inflammation, it is interesting to know what veins admit of a ligature, with safety to the circulation.

In the inferior extremity, when tying the branches of the popliteal artery, it is advisable to avoid including the *venæ comites*; they are therefore to be carefully separated with the

handle of the knife. But if one or both of the *venæ comites* of the anterior and posterior tibial, or the fibular artery, should happen to be included in the ligature, it would not, in all probability, interrupt the circulation of the limb, so much as to produce sphacelus; still as the anastomoses between the veins of different arteries, are not near so extensive or free, as those between the branches of the arteries, it is much more prudent to exclude them. When however, all these *venæ comites* unite to form the popliteal vein, into which the saphena minor generally enters, there is a certainty of destruction to the limb, and probably to life, from the application of a ligature; and the higher we proceed, the danger becomes the greater; and after we arrive at the external iliac vein, inside of Poupart's ligament, a wound between that and the heart, however small it may be, is almost necessarily mortal; even immediately above Poupart's ligament, it will be found exceedingly difficult, or impossible, to restrain the hemorrhage; owing to the depth of the vein preventing us from ascertaining the precise situation and extent of the opening; and the impossibility of applying pressure, in such a manner as to close it effectually; hence a wound of the iliac vein is greatly more dangerous, than a wound of the artery; the artery can be surrounded with a ligature by the feel; we dare not tie the vein; and other means for restraining the hemorrhage are very uncertain; a compress and pressure, should nevertheless be tried.

In the upper extremity, the *venæ comites* of the radial and ulnar arteries, resemble very much, the corresponding veins of the inferior extremity; they should be removed to one side, when the artery is tied. The brachial vein, if wounded, should be treated so as to avoid its destruction; the circulation of the arm could not be supported by the small vein, which frequently, although not uniformly; accompanies the brachial artery; and is generally one of the radial satellite veins; neither is the communication between the *venæ comites*, and the superficial veins, at the bend of the arm, to be depended on for the continuance of the returning circulation; it is extremely irregular and uncertain; and when it is present, merely connects one, or at most two, of the *venæ comites*, with one of the superficial veins; generally the cephalic.

The axillary vein, if wounded near the inferior margin of the axilla, and the opening not large, may be successfully managed by moderate pressure with a dossil of lint and a compress and bandage; if it is wounded deep in the axilla, where the vein becomes very large, by the addition of the subscapular, circumflex, and other veins around the shoulder joint, it is an exceedingly

critical case; and even in the most favourable kind of wound of this vein, as regards size and direction, if pressure by means of a bandage and compress upon the surface, should not stop the bleeding, it would not be easy to decide, between the respective advantages of cutting through the pectoral muscle, and applying pressure directly to the wound; and amputation at the shoulder joint. In this, as in all other cases of wound, of large blood vessels, the first point is to determine whether it is a vein or an artery that is injured, or both; the colour of the blood, and the degree of force with which it is ejected, are the leading symptoms; if it can be clearly ascertained that the vein alone is opened, pressure on the outside of the skin, thus favouring the formation of a coagulum in the cellular texture surrounding the wounded vessel, would be the best practice. If the axillary artery alone were wounded deep in the axilla, I should prefer tying the subclavian above the clavicle, and trust to pressure on the wounded part; if both were opened, this might still be tried; if the hemorrhage still continued, threatening life, the axilla must be laid open, the wounded vessels examined and ligature, pressure or amputation at the shoulder joint, employed according to circumstances.

A wound of the subclavian vein can be managed safely, only by gentle compression, even were it much more easy to reach than it is, from its lying deep under the clavicle, ligature would be inadmissible; inasmuch as mortification would unquestionably be the consequence.

The internal jugular veins, returning the blood from the brain, are not exactly similar to other veins; an arrangement has been made which admits of the destruction of one of them with impunity to the brain. The superior longitudinal sinus, and the other more important veins, empty their blood into the Torcular Herophili; from which the two lateral sinuses branch off to the sides of the skull, to pass down the neck, one on each side, so that if one internal jugular is obliterated, there remains a free outlet by the other; evidently designed to protect the brain from the fatal consequences of the destruction of one of those veins. We have examples of the obliteration of the internal jugular of one side, by the pressure of tumours, without impairment of the circulation of the brain. This however, was a slow and gradual process; we do not know certainly what would be the effect of interrupting the circulation of one of them suddenly by a ligature; it should therefore be avoided if possible; without taking into the account the risk of inflammation.

The external jugular, and all the superficial veins may be tied with safety as far as the circulation of the blood is concerned.



ART VIII. *Case of Gunshot wound, with remarks.* By J. W. HEUSTIS, M. D. &c. of Cahawba, Alabama. Taken from the *American Journal of the Medical Sciences*, for November 1829, with remarks by the Editor.

**N**O one will doubt, that among wounds of the human body, none are more deeply interesting than those of the abdomen. When we survey the parts within the abdomen, and turn our attention to the great importance of the alimentary tube in the animal economy; when we see that while most fall victims to such wounds when violent in their nature, that some do almost miraculously recover—And, again, when we reflect, that in addition to more immediate danger, that great danger usually arises from inflammation, we are disposed to feel triumphant when, notwithstanding all the appalling dangers of such a wound have been encountered, our patient survives, and becomes a living witness in favour of good surgery: here surely we have great cause for rejoicing. Among these rare trophies of our science, the case of doctor Heustis must hold a conspicuous place.

“On the 14th of January, 1824, L. Roberts, of this place, was shot by the discharge of a small cannon, on board one of the steamboats, used as a signal for arrival and departure. He was standing, with others, on the bank of the river, and the piece being pointed incautiously to the shore, wounded by its discharge the subject of this article, in the back. It was supposed that the wadding of the gun was made of some old clothes having buttons on them, from the circumstance and appearance of the wound, which was on the right of the spine, just below the crest of the ilium, about the size of a quarter of a dollar. Upon examination, it appeared that the intestinal canal was broken, as the contents of the bowels were discharged freely at the wound. The place was dressed, and quietude and a recumbent posture enjoined. Having a patient some miles distant, I did not see Roberts again till next day. On my return I was told that a consultation of physicians had been held upon his case, which was considered desperate, and that, with the approbation of the patient, they had come to the conclusion of opening the abdomen, searching for, taking up, and sewing together the wounded portion of intestine. The physicians who held this consultation, were gentlemen highly respected in their profession, and by society at large. As the man made known to me the result of their deliberations, I begged leave to differ from them in opinion, as the practice proposed was unauthorized by example, and at variance with the best surgical writers on the subject. Had the injured extremities or portion of intestine protruded from the wound, there could then have been no objection to uniting by suture

the lacerated bowel, having previously paired off the jagged and deadened circumference, and the securing it to the external orifice. But here we should have been operating completely in the dark; a considerable thickness of adipose and muscular substance would have been required to be cut through before the intestine could have been arrived at; besides, the bowels might have been wounded in more places than one, and the situation of these wounds was therefore a matter of uncertainty. The search might have been tedious and unsuccessful, or if successful, and the injured part had been properly united and secured, was there not reason to apprehend that in such an extensive wound, the exposure of the abdominal cavity, and rough handling, would bring on fatal inflammation of the peritoneum and intestines? I gave it as my opinion, that however small it might be, the patient's best chance consisted in avoiding an operation so dangerous and uncertain, and, with proper medical treatment and external dressings, leaving the event to the curative operations of nature; to that *vis medicatrix*, so surprisingly presiding over human health and existence from the first quickening of animal life to its final extinction. My advice was taken. The patient was laid upon a mattress on his back, partially inclined to the injured side, and as the contents of the bowels escaped by the wound, a corresponding hole was made through the bedding, and as much cleanliness preserved, as the nature of the case would admit. He was now regularly attended by Mr. Hogan, a student of doctor Casey's and myself, every day. No alarming general symptoms ensued; though for nearly three weeks substances taken by the mouth or enemata, were discharged in greater or less quantity from the wound. At length the residuary mass began to resume its natural channel, the external wound gradually healed and contracted, and a portion of the crest of the ilium, of the size of the finger, presented and was extracted from the external opening. Finally, the wound in the course of four or five months healed up entirely, and the man has since enjoyed very sound and comfortable health.

"It is scarcely necessary to say, that in the treatment of this case, nothing but gentle laxatives, enemata, and the mildest articles of diet, as soup and gruel were allowed. The patient was an old soldier, a man of much firmness and resolution, and upon whom calamity, or the prospect of death, appeared to make little or no impression.

"Against the practice of opening the patient and searching for the wounded intestine, Mr. John Bell makes the following judicious remarks.

"When there is a wounded intestine, which we are warned of by the feces, we must not pretend to search for it, nor put in our fingers, nor expect to sew it to the wound, but we may trust that the universal pressure which prevents the great effusion of blood and collects the blood in one place, that very pressure which always causes the wounded bowel and no other to protrude,\* will make the outward wound, and the inward wound of the intestine oppose each other, point to point, and if all be kept there quiet, though but for one day, so lively is the tendency to inflame, that the adhesion will be begun which is to save the patient's life."

"A case similar to the one above, is given in the *New York Medical Journal* for December, 1828, p. 594, from the memoirs of the American Academy of Arts and Sciences; and similar instances are recorded by a variety of authors.

"It might be supposed that wounds penetrating the intestines through the parietes of the abdomen, would prove generally and necessarily fatal; yet even against this, nature has, in great measure, guarded, by leaving no vacuum or unoccupied space within the general peritoneal cavity, and by the uniform and equable pressure and support which the diaphragm, the abdominal parietes, and the contained viscera afford each other. When the stomach and bowels are in a state of repletion, they are applied in close contact to the peritoneal envelope, and when the former are empty, this contact and adaptation are preserved by the contraction and elasticity of the latter; besides each convolution and portion of the intestinal canal has its appropriate location, so that in case of injury, the external wound corresponds with the internal.

"Another way in which nature consults her own safety and preservation, is by the process of adhesive inflammation. One of the chief and the essential means of reunion, in cases of solution of continuity in the animal body, is the deposition of lymph, which becoming organized by the formation of new vessels and nerves, unites and envelopes contiguous surfaces and parts; so that in case the wounded portion of intestine, by rest and position, can preserve its natural adaptation to the external opening for a few hours, the danger and possibility of displacement is effectually guarded against and prevented.

\* In this assertion Mr. Bell is claiming too much. It does not always happen that when a bowel is wounded, that if any portion be protruded, it will be that wounded. We have lately seen a wound of the abdomen, in which a considerable portion of intestine was protruded, and strangulated in a small wound made by shot. Having enlarged the wound slightly, with the button pointed bistouri, the intestine was readily reduced, when, upon gently introducing a finger, the intestines were found wounded extensively; there was much blood extravasated; air gurgled out of the wound, from the opened intestine. In short, such were the ravages that it was but too evident, that, the wound was a mortal one—and the patient died in an hour or two. We fully agree, however, that, in general, the views of Mr. Bell are correct, and highly interesting.

"Soldiers, (says Mr. John Bell,) recover daily from the most desperate wounds; and the most likely reason that we can assign for it, are the fullness of the abdomen, the universal equable, and gentle pressure, and the active disposition of the peritoneum, ready to inflame with the slightest touch. The wounded intestine, is by the universal pressure, kept close to the external wound, and the peritoneum and intestines are equally inclined to adhere. In a few hours that adhesion is begun which is to save the patient's life, and the lips of the wounded intestine are glued to the lips of the external wound. Thus is the sides of the intestine united to the inner surface of the abdomen, (abdominal walls), and though the gut casts out its feces while the wound is open, though it often casts them out more freely while the first inflammation lasts, yet the feces resume their regular course whenever the wound is disposed to heal."

"Although nature thus guards against the effusion of the contents of the bowels in the cavity of the abdomen, yet we can readily suppose that this may sometimes be prevented by the severity and extent of the wound, dividing the intestines to such a degree, or in such a situation, as to cause their contents to be immediately discharged within the general cavity; this will be the more likely to happen, should the alimentary canal be in a state of repletion and distention.

"Numerous cases are recorded by surgical writers, in which persons have been stabbed and shot through the body without fatal consequences, and sometimes without being followed by any serious or alarming symptoms. It is very probable that in some instances of this nature, the slippery and mobile convolutions of the bowels may elude the ball or the point of the weapon, yet in many, and perhaps the majority of cases, there can be little doubt that the intestines have been wounded to a greater or less extent, and that the discharge of matter from them, into the general cavity, is prevented, by that uniform and equable pressure and support afforded by the juxta position and adaptation of contiguous and surrounding parts; and as already stated, the adhesive inflammation which speedily takes place, prevents all danger of effusion after the lapse of a few hours.

"I am aware that in these observations I have little claim to originality, yet as a bare detail and history of isolated cases without suitable remarks and explanations is comparatively un-instructive, the above considerations, I trust, will not be thought unappropriate."

We are much pleased with the modest declaration of doctor Heustis, that there is "little claim to originality" in his paper. But we are not one of those who think that papers are valuable, in proportion as they are novel, or as they may be more or less impressed with "originality." The medical world are running mad on this point—experiment, innovation, invention, *any thing new*, if it happens to succeed, goes forth the *bantling* of some lucky inventor; and, the proselytes, which it makes, soon rear the bantling into manhood. We, really, seem to be in a fair way to lose our moorings, our anchors, and all that is calculated to give fixedness to our profession.

In the case of doctor Heustis we have clear proof of the benefit to be derived from adhering to sound practical precept. And if it be said that these common place lessons are familiar to all, and, therefore, do not require public notice, we answer; that, the fact that "gentlemen highly respected in their profession were about to forsake these rules, so impressively inculcated by John Bell, to say nothing of other authority, (as to secure for them the sanction of all sound reflecting men,) is a proof that, the profession of the present day are too much prone to innovation. The fact of the general preponderance of this disposition in our profession, renders it necessary that we carefully sustain those practical precepts, and more simple doctrines, which have stood the test of time, by reporting the beneficial effects which we see arising from their adoption in important cases.

There is one circumstance which doctor Heustis has omitted to notice which we deem highly interesting. The patient is said to have been wounded by some missile from a cannon, of course this "button," or whatever it may have been, must either have passed through, or it must have lodged in the abdomen. On these points, the doctor is silent. If the button is still within the cavity, it will yet be a matter of interest to know what has, or may, become of it.

N. B. Doctor Heustis, in relating the circumstances of the foregoing case, says that having had occasion to leave the patient, he was informed on his return, *the next day*, that a consultation of physicians had decided upon "opening the abdomen, searching for, taking up, and sewing together the wounded portion of the intestine." There is a circumstance, connected with this part of the narrative, which we deem worthy of notice. Such is the rapidity with which serous surfaces adhere to each other when inflamed, so rapid the course of inflammation in them, that in a few hours there will be firm adhesions—so that had the gentlemen in the above consultation undertaken the operation proposed, they would have found this circumstance alone sufficient to forbid any attempt, the day after the injury. If a case can occur, where it is proper to apply sutures in wounds of the intestines, and we believe such may possibly happen, they must be applied quite early or the opportunity is lost.

We have several times witnessed the wonderful rapidity with which adhesions form in cases of hernia, but the following case affords the most striking illustrations of the readiness with which *sero-membranous* inflammation terminates in adhesions of any we have seen. Three or four years ago, I saw, in consultation with my friends doctors Annan and Mackenzie, a case of accident in the person of Mr. William Dunn, a very worthy citizen of this place. While in the enjoyment of good health he was struck on the abdomen, by a horse that he was about to mount; the animal was striking with its hind foot at the flies upon its belly. The accident occurred about 11 o'clock in the morning—Mr. Dunn was immediately violently ill, but nevertheless he rode a few miles to reach his home. At three o'clock in the afternoon I saw him—death was already depicted in his countenance, his pulse was almost extinct, great distress and anxiety, though mentally calm and fearless; cold skin, livor of the face; breathing slightly stertorous, extreme pain: about three o'clock, at night, he died, that is, sixteen hours after the accident.

Upon examining the body *the intestines were found inflamed in the highest possible degree*, and one portion ruptured (we believe the jejunum.) *In many places the intestines adhered firmly*—lymph had been thrown out abundantly.

ART. IX. *Observations on a Case of Entropion.* By Doctor SAMUEL JACKSON, with remarks by the Editor.

**A**N interesting case of entropion is reported, in the *American Journal of the Medical Sciences*, in the person of a child of doctor Samuel Jackson, of Northumberland, Pennsylvania. The following remarks seem to be correct.

"The various methods which have been practised for the cure of this troublesome affection are difficult or painful; that of Saunders and Dorsey, is followed by permanent deformity; and all of them are nearly impossible to perform in children. If the operation I have found successful in one instance, prove applicable to every tenth case, it will not be considered unworthy of public attention."

Doctor Jackson, after detailing the particulars of a most distressing and protracted case of conjunctivitis, tells us that one eye entirely recovered, but the disease in the other, terminated in entropion of the "lower palpebra. The whole tarsus was turned under the eye ball, so as to present a smooth rounded contour, as represented in Dermour's eighteenth plate. We made several attempts to pull down the lid and extricate the tarsus, but so violent was the action of the muscles, that we utterly failed; therefore, as the eye was constantly improving, we desisted from any further attempt, with the hope that the new cilia had not grown out so as to cause irritation. The swelling diminished every day under the use of blisters; the globe was not inflamed, but some matter filled the eye in the morning; every blister most evidently diminished the sensibility to light."

"Three weeks ago, we made a very vigorous attempt, with doctor Rodrigue's help, to pull out the tarsus, but succeeded only so far as to discover that the cilia had grown to nearly their full length and their full number, and that the eye ball, rolling upon them, held the tarsus firmly under. Here was an end at once of all our dreams of a cure; for on such a restive child, now rendered infinitely impatient of every thing, we considered an operation impracticable, and that the cilia would irritate the eye afresh, and prove a cause of insuperable inflammation.

"Wishing however, to explore the state of things yet farther, we made another violent attempt to pull out the tarsus, and fortunately the little sufferer did not resist, as she had always done before, with the utmost power of the orbicularis; so far from it, that, as it were by inspiration, she seized the palpebra with her fingers, while mine were employed lower down, and she turned the tarsus completely out, so that the cilia spread over the front of the eye. It appeared to have no tendency to relapse; I saw it resume its natural situation and figure, nor could I compare the operation to any thing more appropriately, than to the reduction of a dislocated bone. The eye and palpebra assumed their natural appearance at once, and have ever since, continued entirely well. The cilia stood erect at first, and spread over the eye, but they gradually assumed their proper direction."

Doctor Jackson goes on to give us a brief notice of M. Demour's, this author's work being in the hands of a few, we extract some particulars from the quotation of doctor Jackson.—"This case was clearly not produced by ulceration, and consequent contraction of the inside of the palpebra; we should rather presume that the lid had been so distorted by the tumefaction, that the tarsus was reverted under the eyeball, and after-

wards firmly held there, by the pressure and rolling of the globe on the new cilia. This accords with the observation of M. Demour's, that, "the entropion of the inferior palpebra, is most frequently the consequence of edema of its tissues, and particularly of a relaxation of that part of the skin which covers it."

"When this case obtains (says doctor Jackson,) he cures it by forcibly everting the tarsus, and securing it from relapse, by drawing down the skin with strips of court plaster. By this method, which, however, he does not claim as original, he has cured the disease after four years continuance. But when this does not succeed, he recommends the following plan, which originated with himself. The patient is to place himself before a glass, draw out the tarsus, and resolutely hold it fast three days and as many nights, if the cure do not appear to be obtained sooner. He must not permit it to slip his fingers for a moment, as he will then lose all the fruit of his previous labour. He must sit all night before his mirror; and if he should unfortunately give way to sleep, he is to seize the palpebra the moment he awakes. He relates the case of a lady, sixty years old, who had been afflicted with the disease, fourteen years, and yet cured herself by this method, in two days and one night, having yielded to sleep only about two hours. M. Demour, very truly observes, that the patient's success will depend on his vigor of mind and his desire of cure. We cannot see why the hands of an assistant might not be substituted to relieve the patient, at least during sleep."

It is not at all unlikely that the supposition of doctor Jackson may be correct, when he supposes it probable, that some of the cases of M. Demour would have yielded to the simple expedient of turning the *lid*, without the tedious process of holding it—however, this can easily be ascertained at the time, and if we find a disposition to relapse, in the recovered lid, the plasters, or the holding, must be enforced; where neither of these succeed, a surgical operation will be necessary.

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ART. X. *Observations on the use of Spirits of Turpentine in Hernia.* By PROFESSOR SEWELL, with remarks by the Editor.

"*Case of Incarcerated Hernia in which Turpentine was used with success.*"—Taken from the American Journal of the Medical Sciences. Professor Sewell relates a case of what he terms *incarcerated hernia*, in which six ounces of the spirits of turpentine were given at three doses, at intervals of an hour. Two cases are first mentioned, in which doctor McWilliams succeeded by exhibiting turpentine in large doses—these are also said to be incarcerated cases. No reasonable objection can perhaps, be made to the use of this article in cases of simple incarceration, but we should be apprehensive of extreme

hazard in the employment of it, in cases of strangulation, attended with high inflammation.

It appears from the symptoms noted by doctor Sewell that they were neither urgent, nor attended with any well marked danger.—“On my arrival I found he had been in a state of great suffering through the night, and that he was still affected with intense pain and high fever.” This patient was very properly bled “largely.” He afterwards took the turpentine in doses of two ounces. Perhaps no fact is better known in surgery than, that, herniary protrusions may be reduced by various remedies, both internal and external, and sometimes, we believe, where there is some degree of strangulation. It is not said in the case before us, that there was strangulation, and we cannot readily admit, either from the symptoms, the treatment, or the termination of the case, that there was. *Herniæ* have spontaneously retired within the abdomen from simple rest, and a recumbent posture. We have no disposition to deny the agency to the article ascribed to it, by professor Sewell, but we do feel strong objections to the recommendation of so violent a stimulant, except, in the incipient stage of strangulation, and before any well marked symptoms of inflammation have occurred. We should not only fear much danger from so powerful a stimulant, given while there was active and advancing inflammation; but the circumstance of loosing time renders a trial of several hours, of any other remedy, than an operation, extremely dangerous.

We have, in a great majority of cases, been called on by our medical friends, when it was too late—we have again and again had to lament upon opening a hernial sac after actual sphacelation had taken place—whereas, in those cases, where upon opening the parts, we found them free from gangrene, with one or two exceptions, we have invariably succeeded in saving our patients.

We repeat, we are far from wishing to object to the exhibition of the spirits of turpentine under the circumstances in which it was used by doctor Sewell, but our experience induces us to raise a warning voice against experiments or delays, in urgent cases of strangulation. We have again, and again, seen cases of strangulation where a restoration without a surgical operation, must have been totally out of the question—where the stricture is in the sac itself, to return it, admitting it to be in our power, would be a fatal occurrence, in some instances.

It is to be sure a very pleasant occurrence to the practitioner to succeed in relieving a patient labouring under hernia, but how often do they witness the melancholy sight of seeing the



skill of the surgeon rendered abortive, owing to too much time having been lost in trying remedies, which *do* sometimes succeed?

In a word, we have so often felt the painful regret of having attempted to relieve by operation, when too late, as was ascertained by opening strangulated parts, that we look upon new remedies proposed with a view of prolonging efforts for reduction, with something more than mistrust. We would not be understood to recommend any thing like an indiscriminate recourse to an operation. But where symptoms are really urgent, no danger can be equal to delay; no remedy should occupy that time which calls for an operation, as is often the case in a very few hours.

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ART. XI. *Observations, by HORATIO G. JAMESON, M. D. on cases of Cynanche Trachealis, reported by SAMUEL JACKSON, M. D. Taken from the American Journal of the Medical Sciences, for August, 1829.*

**T**HE information afforded in this paper, goes strongly to support the most generally received opinion in this country, that this disease is truly inflammatory, and therefore, that on the one hand, danger arises from insufficient depletion, and on the other, that danger is lessened in proportion as the depletion be employed *in time*, and to the requisite extent.

In looking over the three cases noticed by doctor Jackson, we remark with some surprise the fact, that venesection was but once practised during the attendance of this gentleman on all these patients. It is true, that in the first case, doctor M. had once bled the patient *ad deliquium animi*, and that leeches were liberally used in all the cases.

We feel bound honestly to acknowledge that we are not acquainted with the influence of leeches over active inflammatory diseases, because we have never employed them, but we risk the imputation of egotism, which may fall upon us, in saying we have seen much of this disease, and we have very many times felt the pleasure of rescuing from death, our little suffering patients, while trusting to the vulgar, and with many almost obsolete practice, of drawing blood from the arm.

We do not deem it important to state the appearances which

were observed on the dissection of the bodies of two of these patients, out of the three that died. Suffice it to say, they were such as to show, taking into the account the abundant effusion of lymph, that these patients died because the inflammation, either from peculiarity of habit, or from an insufficient force in the measures of depletion ran its course so far as to destroy life by a species of suffocation; that is, by a choking up of the bronchial tubes by an abundant secretion of lymph, by which the lungs were prevented from making the usual and all important changes in the blood.

Doctor Jackson's observations and reflections on these cases led him to "the following conclusions."

"1st. That inflammation of the tonsils is a frequent precursor to croup in children; and that it ought consequently always, in them, be attentively watched, and should be treated very actively by the means best adapted to reduce inflammation."

We cannot by any means admit "that inflammation of the tonsils is a frequent precursor to croup"—the fact of three cases occurring in succession, does not afford sufficient ground on which to rest so strong and general a conclusion. We have seen scores of cases of croup, in various parts of this country; in the country, and in this city, and we have very seldom seen this symptom. That most inflammatory diseases of the nature of croup, pleurisy, &c. are sometimes endemic, we think cannot be doubted. And a species of tonsilitic inflammation, accompanied with the usual symptoms of scarlatina, is also sometimes seen, as an epidemic. We have seen many cases of this disease in children, and have never seen it attended with symptoms which would justify us in calling it croup. But if we see this epidemic or endemic character attached to croup, that is, a succession of cases of croup, proceeding from tonsilitic inflammation, we must not too readily conclude, that, this is a uniform occurrence, but, that, it arises from some epidemical peculiarity of the season. That such was the nature of the cases which came under the notice of the author in view, we think there can be no doubt; and we fully agree in his practical conclusion, that we should deplete copiously at the commencement of the disease. This we think is fully established, by the post mortem appearances, which afforded proof of very high, and unobdured inflammation, of some part of the respiratory apparatus, in all the cases before us. But let us not forget here, that there is a species of tonsilitic inflammation, in form of scarlatina maligna, attended with low action, and if we were too hastily to adopt the opinion, that, this inflammation is the precursor of croup, we may do irreparable mischief by free depletion. In

short, croup is in some seasons much more inflammatory than in others, and we never can prescribe with the same certainty in any season, in our first cases, as we can sometime afterwards, when we have learnt the true character of the disease for that season; for, no circumstance connected with croup is so uniformly true, as that this disease, like many others, varies with seasons, years, or constitutions of years. Skill must always consist in finding out the amount of inflammation present, in individual cases of croup, and in suiting the extent of our depletion to each.

"2d. That the membranous exudation may commence in the lower part of the trachea and bronchia, extending upwards, and does not invariably arise in the fauces or larynx, and proceed downwards."

To this opinion we agree in its fullest extent—though it is not common for croup to commence in the chest and advance upwards, yet, we well know that such is the fact sometimes. But we do not so clearly see how doctor Jackson arrives at this conclusion from his premises, since tonsilitic inflammation is the first important symptom noticed in all his cases; and from this fact did our author conclude, that an inflamed state of the tonsils portended danger from croup, and should "be attentively watched; and should be treated very actively, by the means best adapted to reduce inflammation."

"3d. That the most prompt and decisive remedy for sanguine inflammation—that is, sanguineous depletion—is the only certain remedy, and should be resorted to in the first periods of the disease, so as to precede the membranous exudation."

We believe this to be as sound a position as was ever announced, and it is one on which we have as a general rule, practised extensively for many years, and have witnessed the same in the practice of others—nevertheless, in some seasons, where the disease is not so highly inflammatory as it is in others, the exhibition of an active emetic, combined with a pretty good dose of calomel, will in a great majority of cases, arrest the disease in its forming state.

We are not among those, however, who think that every disease must be attacked at its central point of irritation. Nothing connected with croup is more clear, in our opinion, than, that, notwithstanding the violence of the local affection, the whole system is deeply involved. And besides so essentially are the various parts of the system dependent upon the geneneral circulation, both in health and disease, that to attempt the reduction of local action while the general circulation is in

full play, or any way near it, is unreasonable, and, as yet, without sufficient experience to recommend it; whereas by subduing the general circulation all parts sympathise in a very remarkable manner—this is not only plausible, as a pathological principle, but it is well established by ample and long experience.

When an inflammation is seated in the throat, the whole system is deeply concerned. Why then are we to prefer drawing blood from the part, rather than attack the forces distributed throughout the system, by taking blood from the arm. In other words, if we draw blood from the throat, while the general forces remain unsubdued, we shall often increase the flow of blood to the diseased vessels, already in a state of action greater than natural, owing to the force of the heart and arteries not being previously reduced.

We are decidedly of the opinion, that local bleeding is not the remedy for sanguineous inflammation. This opinion is not founded on theory, but upon extensive observation for a long course of years; and from the fact, that the mortality from common inflammatory diseases, is not lessened since the introduction of leeches into practice. To which we would add the fact, that under our own observation, we know it to be a truth, that many of our country physicians, who never directed the application of a leech in their practice, have quite equalled in their success, in inflammatory diseases, the most active partizan of the leech practice.

Nothing connected with the treatment of inflammation, is more true, than the circumstance that the effects of bloodletting within certain limits, depend more upon the debility being suddenly induced, than upon the amount of blood drawn—and hence it is, that we do so much more good, by bleeding from a large orifice. As we do not mean at this time to enter into our views in extenso, we shall close our remarks on the point under notice, by a very brief recital of two interesting cases.

A man of great respectability, a farmer by occupation, and of a good sound constitution, was seized by a violent pleurisy or pneumonic affection. A physician of high respectability was called in—copious and repeated bloodletting was employed. The case having resisted this energetic treatment for several days, a gentleman, but young in the profession, from some accidental circumstance, was called from a distance of forty miles, into consultation. He fully approved of the plan of treatment,

with one exception, viz. that the blood had been drawn from too small an orifice.

Reduced as the patient was by the repeated and copious losses of blood, he proposed that more blood should be drawn from a large orifice. This was acceded to, and the effects of this sudden abstraction of blood from the arm, appeared obviously, after the loss of a few ounces. So obvious were the good effects of this mode of bleeding, that every one present was made sensible of its high importance. The patient, it was supposed, owed his life to this circumstance. The case was related to me several years afterwards, by a gentleman not of the profession, and therefore he had no favourite opinions to support, nor was it likely, admitting for a moment that we might doubt his veracity, that he could invent such a tale. For ourselves, we gave full credit to the statement made to us, and we have profited by it; and can assure the profession, that for many years, we have taken care to have our lancet phlegms larger than those now used, and made in this country.\* In the present day, had an advocate for the leeching practice been called under such circumstances, nothing is more likely, than that he would have folded his arms, and exclaimed, alas! are there no leeches here! These are a *sine qua non* in modern practice! If he had had leeches, we doubt much whether they would have saved life, for it was by carrying the patient suddenly nearly to syncope, that the case eventuated in recovery.

In the second case we were personally concerned. About the year 1800, when young in the profession, we were called to see Mr. Jonathan Zane, of Wheeling, Virginia, who was labouring under a pleuritic affection, which had attacked him

\* The following remarks are taken from a lecture which we have delivered for three years to our classes. The circumstances occurred when we were attending lectures in this city, before any medical college was built. "It may happen that those who have all respect for you, may censure you for doing things to which they are not accustomed, simply because they do not understand your reasons. I will digress a minute to mention a fact strongly corroborative of this assertion. A young physician once showed his spring lancet to me for the purpose of boasting of its excellence. I remarked that the blade or phlegm was narrow, and that it was not well suited to bleeding puerile patients. Here our conversation ended; but being one of those little pedlars in our profession, who was too much conceited to discover his own ignorance, he mentioned the fact to several gentlemen, as a proof of my ignorance, in supposing, as he imagined, that a patient in a pleurisy is hard to bleed. Had he not been an ignoramus, he would have understood, at once, that I had reference to the advantage of making large orifices in cases of pleurisy, and similar inflammatory diseases, because it is well known, that a given quantity of blood suddenly drawn, will have much more effect than where it is drawn more slowly, and it follows, that a narrow blade is not suited to making large orifices.

three weeks before we saw him. We are not now certain whether he had been bled before we saw him, but we are pretty confident he had not. He had some fever, flushes of the cheeks, heat of the skin, considerable pain in the chest, severe cough, some expectoration of mucus, sometimes streaked with blood. Confined to bed during most of the time, now much reduced in strength, and somewhat emaciated—in short, this was a severe and protracted case of pneumonia, much neglected—suffered pretty much to take its course on a very vigorous frame inured to much exercise in the woods in former years.

Mr. Zane being one of the principal men of the place where we then resided, and there being a point to decide which was embarrassing to us, because we had been instructed that there was much caution to be observed in bleeding, if admissible at all, even in pleurisy, after the first nine or ten days, these circumstances served to impress indelibly upon our memory, the prominent circumstances of the case. Under these trying circumstances, we, for the first time, ventured to depart from the rules of practice, which had been taken from our preceptor, and to be governed by symptoms present—we tremblingly bled this patient a few ounces from the arm—it acted like a charm, was repeated, and by blistering and other ordinary measures, he was presently restored to perfect health. If this gentleman's life had depended on the employment of leeches, he would have had his days shortened by upwards of twenty years, because these could not have been procured. These are only two of the many thousands of cases that could be collected of the triumph of the lancet over inflammatory diseases; we wish we could say as much for leeches!—these may in all probability continue long to make a principal item in our remedies for inflammation in larger cities, but they never can be extensively employed in country practice; and we, for one, feel truly thankful to God, that he has not left the lives of mankind to depend upon the use of hundreds of leeches, in cases of "sanguineous inflammation."

"4. That the membranous exudation having been once produced to any extent, little expectation of recovery is to be entertained. When this result does occur, it is to be regarded as fortuitous, depending on some extraordinary circumstance, and which cannot be calculated on, as a probable event."

We are of the opinion that after the membrane is formed that there is but "little expectation of recovery," but, still, we know that there are many cases, where patients do recover after discharging a tubular inspissated mucus—such cases are on record, and we well recollect one very interesting case, in the person of a little daughter of Mr. Hosler, formerly of Gettys-

burg, about four years of age. In the protracted stage of croup, on account of great labour in respiration, and much commotion in the pulse, we bled the child some ounces from the arm, syncope took place, and as she revived, she coughed, and dislodged a tubular mass from the trachea, and was better from that moment. In a day or two she was out of danger, and soon enjoyed fine health. Still we cannot be too vigilant in preventing this state of things, as, we know well, it is in general the sure harbinger of death.

"5. That when the membranous exudation has been thrown out in the larynx, trachea, and bronchia, the application of muriatic acid to the fauces, so highly extolled by Bretonneau, and of nitrate of silver, recommended by doctor McKenzie, from the local and limited impression they must necessarily make, can promise no beneficial operation—their operation cannot be extended to the surfaces from which the exudation takes place. This practice can be of utility only in rare cases, where the difficulties arise from an obstruction limited to the glottis and fauces."

We must confess here that we are not prepared by trial with these articles to decide on their effects. We believe however, that doctor Jackson's view of the subject is correct, and we know from considerable opportunity that so far as we may expect benefit from the stimulus of irritants upon the fauces, the best effects may be expected from the use of a strong decoction of polygala seneka. This has the advantage of acting as a diaphoretic, and sometimes as a sudorific. Besides we must not forget that calomel has an important influence upon the mucous surfaces, and will also reduce inflammation, perhaps, in all cases, excepting that of the alimentary tube, and is in some seasons little short of a specific in croup.

"6. That laryngotomy, or bronchotomy, is a useless operation, when the membranous exudation has actually occurred, and extends as it mostly does, to the trachea and bronchia; or, when the inflammatory irritation of the respiratory mucous membrane is not subdued, and a free secretion from it is produced. The impossibility of coughing after the operation, prevents expectoration, the fluids accumulate in the trachea, bronchia, and bronchial ramification in the lung, causing finally, suffocation. The only case in which the operation promises success, is an obstruction confined entirely to the glottis, without disease prevailing to any extent in the respiratory mucous membrane."

We fear it is too true that the operation of tracheotomy will not save life after the membranous exudation into the bronchia. But as no material objection can be alledged against the operation, we should not pronounce this remedy useless because it very often fails, under the most unfavourable circumstances.

We do not however consider doctor Jackson, as condemning the operation.—We cannot possibly know during the life of the patient what may be the precise extent of the disease, and

may therefore have to operate hoping for the best, and yet the case may turn out to be such as was not under the control of any remedy. We are reminded here of a very interesting occurrence. A gentleman of the first rank in the profession in this city, called on us with intent that we should perform the operation of tracheotomy, on his own child extremely ill of cynanche trachealis. We met two gentlemen at his house, one of whom was an older surgeon than the present writer, the other a younger physician, after an examination of the case, both these gentlemen were opposed to an operation; the father's feelings were too much excited, to decide, though we believe he would have been better satisfied, if the consultation had agreed on the operation. We expressed our willingness to operate, but were not willing under such circumstances to assume any responsibility. Nothing was done—in a few hours the little patient died. The father told us sometimes afterwards, with tears in his eyes, that he regretted not insisting on the operation, not because he had any idea that it would have saved life, but it would have spared him the horrible spectacle of seeing his child die struggling under symptoms of strangulation. That words could not express the horror of seeing a prostrated child suddenly bounding up in the agony of suffocation, and die thus, erected on its hands and knees. To "smoothen the avenues to death" is a poor offer to make to an anxious parent, but we will venture to say that none who have ever witnessed death by suffocation, would object to an operation, which may possibly save, and will, at all events, lead to a more tranquil death.

These reflections lead us to believe, that doctor Barton performed an operation not only warrantable, but one which does him credit in the trying circumstances under which it was performed, what might have been the result of an earlier operation, on the little patient of doctor Jackson, we will not presume to say, but in this case the operation was too late—not only as relates to the more visible effects of the inflammation, but on account of the vital energies being exhausted, by the imperfect action of the lungs upon the blood.

If there was any room to doubt this fact, the circumstance related by doctor Jackson, that the child could not cough, proves it abundantly. We have performed the operation of tracheotomy frequently, but have never, but once, seen a patient that could not cough. "The impossibility of coughing after the operation, (says doctor Jackson) prevents expectoration." This is by no means a common occurrence, and if it were really true that a patient could not cough, while the trachea had an artificial opening in it, it would be an easy matter



to close the opening occasionally, by applying a finger to the part; if there was any opening into the mouth, or pass into the larynx a flexible tube. We should not forget an important suggestion of Mr. Lawrence, that we should cut away as much of the cartilage of the trachea as will secure an opening, sufficiently large, instead of using the usual tracheal silver tubes.

The happy effects which have attended the operation of tracheotomy in cases of chronic laryngitis, should make us cautious how we reject this operation in the acute. We willingly confess that we have not been able to save a patient under such circumstances, but it is certainly true, that in all the cases of tracheal inflammation which we have seen or heard of, where this operation was performed, it was done too late.

We close this article by expressing our opinion, founded on long experience, that the lancet is the sovereign remedy for croup; that although it is especially adapted to its early stage, yet this has been too closely adhered to—at least, we know that blood may not only be *drawn from the arm*, in the protracted stage of croup, where the contraindications are not very obviously manifest. And we have this circumstance in favour of late bleeding, that if it does no good, it can do little harm, as most cases will end fatally that are not cured by the lancet, provided inflammation has really been established. There may doubtless be circumstances where leeches may be substituted for the lancet, but we unhesitatingly aver, that croup can be, and is treated skilfully and successfully, where their use is unknown—and, moreover, to trust to them in the incipient stage, instead of bleeding by the lancet, will often lead to disappointment, by adding to the list of mortality.

We are aware that much difficulty sometimes arises in bleeding children, but by care we may always succeed—if we cannot bleed in the arm at its bend, we can sometimes draw blood freely from the hand or foot, by using warm water, and taking especial care to have very sharp smooth edged lancets—or we may often succeed to our wishes in the jugular; and when all these fail, arteriotomy at the temple will often answer our purposes. But we would repeat, that croup is a disease, which like many others, is under the influence of season; and we will find, that in some years, bloodletting is much less essential, nay, sometimes less safe than in others, where almost every thing depends upon one or two copious bleedings, and an emetic, followed up by the hive syrup, and this occasionally combined with calomel.

It has not, however, been our object so much to write on the treatment of croup generally, as to enter our caveat against the substitution of leeches, or local depletion, for the lancet, in sanguineous inflammation. We raise our objections against this practice, not merely because of its trouble, expense, difficulty of procuring, (except in cities,) the unnecessary exposure of female patients, &c. but because we are well assured that inflammatory diseases are most easily, and certainly subdued by drawing blood from the larger veins, and suddenly, by large orifices. We utterly disclaim all intention of novelty, or giving offence; we write for the science, our aim is truth, if we do not attain it, we can only repeat, that it is what we most ardently desire.

**ART. XII.** *Case of Paruriá Inops, (Good) or Paralysis of the Kidneys.* By GEORGE HAYWARD, M. D. of Boston. *Taken from the American Journal of the Medical Sciences.*

We have been induced to notice this case on account of its extreme rarity of occurrence, and from the circumstance of its presenting some particulars entitled to our attention, because peculiar to this case.

"This disease, in which according to doctor Good, the urine is unsecreted by the kidneys," and there "is no desire to make water, nor any fulness of any part of the urinary track," is a very rare occurrence. No writer but Sir Henry Hallford, that I am aware of, has published any account of it; this circumstance, together with the fact that its termination is usually, if not always in death; induce me to submit the following details of a case that recently occurred in my practice."

We have seen above that the term *paruria inops* has been taken from doctor Good. Upon turning to this author, vol. 4. p. 298, we have the following description of this disease. "A deficient secretion of urine is often a result of renal inflammation, in which case, however, there is necessarily a considerable degree of pain and tenderness in the lumbar region. But the present species occurs occasionally as an idiopathic affection, sometimes followed by great danger to the general fabric, *sometimes assuming a chronic form, and running on for a considerable time without danger, and sometimes existing as a constitutional affection, coeval with the birth of the individual.*"

Doctor Good tells us that this disease has been seen by different writers; "doctor Parr (says he) relates a case that occurred in his own private practice, in which no urine was apparently secreted for six weeks; and Haller gives a similar case that lasted twenty-two weeks. In the Philosophical transactions, we meet with various instances of a similar deficiency; among the most singular of which, is the case of a youth of seventeen

years, described by doctor Richardson, who had never made water from his birth, nor felt the least uneasiness on this account, being healthy, vigorous, and active.

"Let it not be supposed, however, that so important a secretion as the urine is, can have its constituent principles remain behind, and load the blood without danger. The outlet at which these are separated and discharged, is not always manifest, and hence they sometimes appear not to be separated and discharged at all; though if the state of the patient be critically examined into by an accurate pathologist, the vicarious channel will generally be detected, and most of the cases that must at present range under the species before us, would be transferred to that of *paruria erratica*."

It is certainly remarkable that doctor Good should range his cases under the head of *paruria inops*, and tell us they belong to "*paruria erratica*." In support of his opinion that these cases were not of the former species, but of the latter or erratic, he makes the following remarks. "The two common emunctories that supply the place of the kidneys, are the skin and the bowels. In doctor Parr's cases, he states there was no vicarious evacuation, except a profuse sweat for a day or two, and he adds, that there was no suspicion of imposture, as the patient was in a hospital, and watched constantly. But we have no account of the state of the bowels. In doctor Richardson's case of a natural destitution of urine, the patient is admitted to have laboured under habitual diarrhea, though with little uneasiness, and the discharge of the urinary elements is very correctly ascribed to the intestinal tube."

We deem the following remarks from doctor Good, highly interesting, since his reading seems to have been more extensive and efficient than that of any other man of the present age—we allude to his naming Sir Henry Hallford as the first writer within his knowledge, who gave an account of this rare and intractable disease. Doctor Good says, "I do not know, however, that the great and pressing danger of having the constituent principles of the urine thrown back into the blood, (he should have said left in the blood,) have been distinctly pointed out by any physician before the appearance of Sir Henry Hallford's valuable article in a late volume of the Medical Transactions, which contains the following interesting case. We are further informed in this article of the symptoms of one case, as reported by Mr. Hallford, in which there is so much resemblance to those in the case of doctor Hayward, that we do not deem it necessary to quote the case; but we shall repeat doctor Good's conclusion, taken from the paper of Mr. Hallford. "All the patients who have fallen under my care, were fat corpulent men, between fifty and sixty years of age: and in three of them there was observed a strong urinous smell in the perspiration, twenty-four hours before death." We now return to the narration of doctor Hayward.

"On Thursday, July 16th, at 10 o'clock P. M. I visited a lady in the fiftieth year of her age, the mother of several children, who complained of considerable nausea, with diarrhea, and slight pain in the stomach and bowels. She had been well as usual till Tuesday evening, but since that time had been so much indisposed as to abstain from all food. Her indisposition she attributed to taking cold, from exposure on Monday night. She had formerly been a good deal of an invalid, having suffered severely from repeated miscarriages, but had for the last eight or ten years enjoyed a very tolerable share of health.

"I found her tongue covered with an unusually thick coat; her pulse between seventy and seventy-five in a minute, moderately strong, and her skin cooler than in health. I directed a gentle emetic of the wine and powder of ipecacuanha, to be followed by castor oil, and the dejections to be restrained by opium, if they were excessive."

Our attention has been called to the following points in the two preceding paragraphs. There was diarrhea at the time of doctor Hayward's first visit—this was on Thursday, the patient having sickened on Tuesday preceding. There was some pain in the stomach and bowels; the tongue covered with an unusually thick coat; pulse between seventy and seventy-five a minute, moderately strong; skin cooler than natural. Are not these strong signs of fever threatening congestion? Was it not to be presumed that a pulse so little disturbed, associated with other strong indications of fever, was a striking proof of an action or condition of the pulse unsuited to the other signs of disease, and, upon the whole, a slowness of pulse indicative, taken in connexion with the cold skin of congestion in some important viscus? Now it is true doctor Hayward at this time was not aware of the *suppression*; the patient had only observed it the day preceding his first visit. But a cold skin, a furred tongue, a diarrhea, some pain in the stomach and bowels, with a pulse moderately strong, and but little disturbed as to frequency, or rather below its healthy standard, as the pulse in most females ranges at about eighty per minute; afforded evidence sufficiently clear of congestion somewhere; at this stage of the case it mattered not where it was, the remedies for arresting it would be the same. Under these circumstances an emetic was given, and we think very properly, to which should have been added the warm bath. Both remedies would have tended to equalize the circulation, and made way for the lancet, which should not have been delayed beyond a few hours, whether the pulse had become unlocked or not. We rest this prescription on the broad basis, that here was congestive fever, (no typhus epidemic present,) and it therefore mattered not where the congestion was seated, sanguineous depletion was the remedy, soon as the stomach was unloaded, and a reasonable effort made by the bath to equalize the excitement.

"On Friday morning I learnt that the emetic had operated thoroughly, though mildly, and that she brought from her stomach, food in an undigested state, that was taken on Tuesday. Her bowels had been so frequently moved as to render it necessary to give her three grains of opium at intervals. She was somewhat stupid, which at the time was attributed to the opium; the coat on the tongue remained about the same. She still complained of nausea; though she was free from pain; the pulse was slower than on the preceding day, and the temperature of the skin was diminished. At this visit she told me she had passed no urine since Wednesday morning, (this being Friday) but that she had no desire to do so, and no pain or inconvenience from it. On passing my hand over the bladder, I satisfied myself that it was not distended; I directed her to take one dram of a mixture of three parts of the liquid acetate of ammonia, and one part of the spirit of nitrous ether, every two

hours, and to let me know in the afternoon, if she had not evacuated the bladder in the interval. I was sent for in the afternoon, as no water had been passed; there was still no suffering, and the bladder was not distended. I then introduced the catheter, and drew off about half an ounce of urine, of a very healthy character. The patient was more drowsy at this visit than I had seen her at any previous one, and being now convinced that the whole trouble arose from a want of secretion of urine, I stated to her family that I considered her situation an alarming one, and that the disease would probably have a fatal termination. This surprised them, as her strength was good, she was without pain, and conversed freely, when roused from the stupor to which she was inclined.

We are told that the emetic was followed by a portion of castor oil, the digestions to be restrained by opium if they were excessive. The bowels were so freely moved as to render it necessary to give three grains of opium at intervals. Certainly no man can here censure the prescription on account of its not being suited to *congestion in the kidneys*, but we think there was an unnecessary anxiety about the debility in this case—it was unquestionably indirect. We will not presume to say what would have been our course under the circumstances present, but on a review of the case, with all the light which fell upon it afterwards, we say that the opium was a most unfortunate prescription. We cannot see any sufficient reason for such apprehension of a dose of castor oil running the bowels into excessive action. And we think it will be admitted that where there is evidence of inflammatory congestion in any organ of the body, opium was inadmissible, but especially, if it had been known that the brain was about to be oppressed with the stupifying influence of the urea of the blood, the opium would give additional morbid influence to this poison. After taking the opium she was somewhat stupified, “which at the time was attributed to the opium.” The tongue still coated—the pulse slower than the preceding day, of course below seventy or seventy-five—skin still diminished in temperature. These symptoms are still stronger evidence of congestion somewhere. This day “her strength was good”—“conversed freely when roused from the stupor which was still increasing. Spirits of nitre and spiritus mildereri, were given to excite the kidneys, now ascertained to be affected with suppression.

What would have been the effects here of free depletion? We think it was clearly indicated—and it still mattered not where seated. It was evident that the coma was owing to the suppression, but what gave rise to the defection of secretion? Congestion of the kidneys clearly inflammatory, and clearly congestive, because the pulse was slow before the suppression took place.

“I now directed a large blister to be applied over the kidneys, fomentations of hot herbs in spirits over the pubis, sinapisms to the feet, and stimulating frictions to the whole surface of the body, with a continuance of the diuretic mixture.

“On Saturday morning all her symptoms were aggravated; pulse slower, the skin cooler, and the coma increased. The tongue remained coated, there was no appetite for food, and no

water had been passed. A powder, composed of one grain of the submuriate of mercury, five grains of the nitrate of potash, and a scruple of cream tartar, was ordered to be given every two hours, and the other remedies were continued. No improvement took place during the day; on the contrary, the coma increased, the pulse became slower and more feeble, and the temperature of the skin was diminished.

"Finding her symptoms worse on Sunday morning, I directed ten drops of the tinct. cantharides and capsicum to be given every two hours, instead of the mixture of the spirits of nitre and mindererus, and the other remedies to be continued. At this visit I passed the catheter, and drew off about an ounce of healthy urine. At three o'clock, P. M. doctor Warren saw her with me; she was now so comatose that it was impossible to rouse her, and her pulse had sunk considerably since morning.

"Doctor Warren advised to give one dram of the tinct. cantharides and capsicum every two hours, to rub along the whole course of the spine with the same, and to continue the use of the other means. The medicine was given and the other directions followed till eight o'clock in the evening, when she became unable to swallow, her pulse ceased at the wrist, the surface of the body became cold; and the breathing stertorous, and at long intervals; and in this state she continued till Monday evening, at seven o'clock, when she died."

We should much doubt the propriety of the external application of cantharides in affections of the kidneys. If the disease be inflammatory congestion it must be improper. Decoctions of hot herbs to the pubis in spirits, sinapisms, frictions, &c. were prescribed. These remedies did not prevent her symptoms from becoming worse the next day; pulse slower, skin cool, and increase of coma, the tongue still coated. In these symptoms we have increased evidence of congestion, and we cannot overlook the fact now of its being in the kidneys. We think it was still not too late to bleed, and instead of the external irritants we would have used the warm bath. We have several times seen the most decided good effects from the use of the warm bath in cases of renal inflammation, and more especially in cases of violent nephralgia. We think this viscus is more especially influenced by the warm bath, which may be owing, in some degree, to the close connection in sympathy and office, between the kidneys and the bladder. On this day, that is on Saturday, the doctor having been called in on Thursday, it is mentioned for the first time that the pulse was "feeble."

Doctor Warren having been called in on Sunday, advised increased quantities of tinctures of cantharides and capsicum which had been prescribed previously. These remedies were apparently attended with no good effect, and the patient died comatose on Monday evening.

"Sectio Cadaveris, twenty-four hours after death. The examination was made in the presence of my friend, doctor Homans of this city.

"The general appearance of the body was natural. On dividing the scalp from ear to ear, and dissecting it from the cranium, no fulness was discovered in the vessels of the integuments, and scarcely any blood was effused. The brain and its membranes were found to be in a perfectly healthy state, there was neither effusion nor congestion, but all the appearances warranted the conclusion, that the morbid symptoms were owing to the quality of the blood, rather than to its quantity.

"There was no mark of disease of the stomach, intestines, liver, spleen, or uterus. The kidney of the right side was of about half the usual size, and about a third part of it at least, was of a deep purple colour, exhibiting considerable traces of inflammation, apparently recent. When cut into it emitted a strong urinous odour.

"The left kidney was not larger than an English walnut, but of a healthy appearance, and free from urinous odour. Both the ureters were somewhat inflamed. The bladder did not contain a drop of urine; the mucous coat was nearly black, appearing to have been the seat of violent inflammation. Whether this was the case, or whether the inflammatory appearances about the ureters was to be attributed to the absence of urine, the usual stimulus of the parts, is a point which I feel unable to decide.

We are told that the brain was free from all appearance of congestion, and perfectly healthy, and it is said that "all the appearances warrant the conclusion, that the morbid symptoms were owing to the quality of the blood rather than to the quantity." As relates to the brain we have no doubt this is a correct conclusion; but what produced this state of the blood to which allusion is made? We answer it was unquestionably congestion of the renal organs. This we infer from the symptoms of the case which clearly pointed out congestion somewhere, and from the appearances on dissection. "About a third part" of the right kidney "was of a deep purple colour, exhibiting considerable traces of inflammation apparently recent. The left kidney was of "a healthy appearance" but "both ureters were somewhat inflamed." The mucous coat of the bladder was nearly black, appearing to have been the seat of violent inflammation. Can we doubt after all this light on the case that this was a case of renal inflammation?

We are told that it is doubtful "whether the inflammatory appearances about the ureters was to be attributed to the absence of urine, the usual stimulus of the parts." We are willing that this may be offered as a reasonable question under certain circumstances, but does not seem to apply to the case before, as the secretion was not absolutely total, doctor Hayward having twice drawn off a very small quantity of water, though none was found in the bladder after death.

Doctor Hayward in noticing the remarks of Mr. Halford, who states as his opinion, that a very small quantity, such indeed as to surprise us, will relieve from that imminent danger which awaits a total suppression, says, that "from my patient it will be recollected, that a small quantity of water was drawn off on Friday afternoon, and again on Sunday morning, showing that some secretion had taken place." It ought not therefore to be insist-

ed on, that the bladder and ureters were without their usual stimulus in so great a degree as to justify the conclusion of their being inflamed because deprived of an usual stimulus.

"As this disease so rarely occurs, and as all the cases that have come to my knowledge, terminated fatally, I shall be excused perhaps for adding a few remarks. The only printed account of this singular affection which I can find, is the one by Sir Henry Hallford, referred to in the beginning of this paper. It was published in 1820, in the sixth vol. of the Transactions of the college of Physicians in London. It appears that he had never seen but five cases. They differ in some respects from the one above detailed. All the patients were fat corpulent men, between fifty and sixty years of age." "In three of them there was observed a remarkably strong urinous smell in the perspiration twenty-four hours before death." Nothing of this kind was observable in my patient.

"In Sir Henry Hallford's no urine whatever was secreted; and he remarks, that "if any water, however small the quantity, had been made in these cases, I should have thought it possible that the patients might have recovered; for it has often surprised me to observe how small has been the measure of that excrementitious fluid which the frame has sometimes thrown off, and yet preserved itself harmless; but the cessation of the excretion altogether, is universally a fatal symptom in my experience being followed by oppression on the brain."

"From my patient, it will be recollected, that a small quantity of water was drawn off on Friday afternoon, and again on Sunday morning; shewing that some secretion had taken place, which proves the conjecture in the above quotation, as to the favourable termination of this disease under such circumstances, is unfortunately not much to be relied on.

"The disease he denominates paralysis of the kidneys, and till something more is known of it, this name will answer perhaps as well as any other, though if it were fair to draw any conclusion from a single instance, it might be inferred, from the appearances in my case, that the paralysis was consequent on an organic affection. It does not appear that he had made any examination after death, nor has he detailed his method of treatment. Whether this affection is under the control of any remedies we possess, remains to be proved, but hitherto all attempts to check it have been unavailing.

"The slow and feeble pulse of my patient, the temperature of her skin, which was below the ordinary standard, and the entire absence of pain, seemed to forbid all depletion, but indicated the administration of stimulants, such especially as would act on the urinary organs. But I must confess that nothing that



was administered, appeared to have the slightest effect in relieving the patient; and if another case, should come under my care, though I know not what different treatment I could pursue, yet I should feel but little encouragement in adopting my former plan.

"Death in these cases is doubtless owing to the impure state of the blood, arising from the failure of the kidneys to perform their usual secretion. The circulating fluid, when it is first received from the lacteals, is in a state wholly unfit to support the vital functions. It is an important part of the office of the lungs, skin, and kidneys, to purify it, and if the customary action of these organs be partially interrupted, alarming consequences ensue, and a complete suspension of their functions produces death. This is well known with regard to the lungs. The immersion of the body in carbonic acid gas, is followed by an immediate suspension of vitality, and unless the lungs are soon supplied with respirable air, death is the consequence. The cause of this is, that the pulmonary organs, when deprived of vital air, are unable to effect that peculiar change in the blood which should take place in them; the blood is then sent to the left side of the heart in a state unfit for the purposes of life.

"A similar effect, though less sudden, would be produced if there should be a total suspension of the action of the skin, and a failure on the part of the kidneys to perform the office assigned them, is followed by like consequences. There is great similarity in the symptoms arising from these different causes, because the brain is in each case the organ primarily effected. To enable it to perform its function well, it must be regularly supplied with what is called arterial blood, that is, blood that has been freed from its excrementitious part. But when impure blood is sent to it, it instantly ceases to act, if the impurity be great and immediate death, is the consequence. If the noxious principle have been in part removed by the lungs, skin, and kidneys, the effects are not so sudden or violent; coma, however, usually comes on, which gradually increases, if the cause continue, till it terminates in death. When the kidneys, therefore, fail to secrete urine, and thus rid the blood of a part of the excrementitious matter which it contains, the functions of the brain are soon disturbed, and death ensues, unless, as sometimes happens, another organ performs a vicarious office for them."

It has not been our intention to throw the slightest shade of reflection on the skill of the gentlemen concerned in the case before us, but we do not believe with doctor Hayward, that "the slow and feeble pulse of his

patient, the temperature of her skin, which was below the ordinary standard, and the entire absence of pain, seemed to forbid all depletion. But on the contrary, as we have already stated, these were marked symptoms of congestion, in some important viscera. Doctor Hayward says the pulse was slow from the beginning, but it was not noticed as being feeble till Saturday, at least two days after the first visit.

Upon the whole, we would not wish to be understood to apply our remarks specially to the case before us. We have throughout been using the case merely as a clue to our general principles. It has been our object to throw some light on this obscure subject if possible; and as this is the first case of which we have a satisfactory account of the symptoms and of the dissection, we have been anxious to show that death in these cases is, in all probability, owing to renal congestion. We are stopping short of a philosophical view of this subject in contenting ourselves with the opinion, that death in these cases is owing to a deterioration of the blood. This is an *effect*, and we must push our investigation further into the pathology of these cases, since it would be a vain effort, to attempt the correction of the blood—we must correct the organ in fault, and, to do this, we must know what is the nature of that fault. We do not therefore, agree with doctor Good, when he says, that “in attempting the cure of paruria inops, we ought in the first instance, *whatever be its cause, to take a hint from the light of nature which is thus thrown upon us*; and, as the excretions of the skin and of the kidneys are so perpetually assisting each other in almost every way, excite the former by active diaphoretics to take upon themselves the office of the latter, and carry off the urea that should be discharged by the kidneys.” This might suit the disciples of Hippocrates, of Stahl, or of Pinel, but for ourselves, we hold such doctrine to be alike fallacious and dangerous.

We readily admit that we sometimes meet with unquestionable evidence of certain organs taking on vicarious offices, and among these we admit cases of the urine being thrown off by the skin, and by the bowels, never by “the lungs,” but who has given us any evidence of such exchange of office coerced by medicine. It is the office of the skin to carry off by sensible, and insensible, perspiration, watery fluids—we know that by giving diaphoretics under certain states of the system, we shall increase the quantity which is discharged of this peculiar fluid, but is there, we seriously ask, any reasonable ground to hope, that, because the quantity of action is increased, in the dermoid exhalents, that they will give off urea?

Certainly there is none on which we can place any reliance: so far are we from believing that we may expect to provoke a vicarious action in the skin, we believe, on the contrary, that by hurrying away the thinner parts of the blood we should leave the remaining portion of it proportionably loaded with the noxious principle, and this circumstance must lead to increased morbid derangement. In a word, it is not so much the urea with which we have to contend as with the fault of the renal organs, which refuse to take the urea from the blood.

We must in all cases view these vicarious operations as mere freaks of nature—they proceed from abnormal derangement, and, though under certain circumstances these preternatural operations may be better than a greater evil, in some other organ, they are only accidentally useful, as they are accidentally present; and present by morbid changes within, over which we have no control. You may as well ask the skin to decarbonize the blood, as to carry off the urea. We cannot do any thing which we know to be suited to such intention. If we admit, to a certain extent, that we may second nature, in her efforts of relieving by vicarious operations,

it is to be feared that if we could give a determination of the urea to the skin, this tendency may divert the natural action of the kidneys, for what we know, and thus do more injury than good.

The question very naturally occurs here what shall we do? We answer, that *paruria inops* is a disease of the kidneys. This disease is characterized by an increased or diminished action. And we are inclined to believe that with very few exceptions, indeed, this derangement of function is owing to renal congestion. How are you then to overcome this congestion? We answer, like all others; we must equalize excitement by depletion, and especially sanguineous depletion, aided by local depletion.

Let us suppose the kidneys in a state of sanguineous inflammation, shall we expect benefit to our patient by increasing this action of these viscera, as is attempted by the use of diuretics? To us, this is not less irrational than to ply the stomach freely with nutritious food or drink when in a state of inflammation or other derangement. In abstracting blood, as freely as the case will admit, we draw off much of the poison; we relieve the affected organ from much of that force of circulation which has fallen upon it, and which constitute the disease. We would confine patients to simple water, use emollient ememas, and refrain totally from food or medicine, except an emetic or two of antimony or ipecacuanha.

But it may be said that the kidneys are subject to paralysis. May not such a disease be owing to indirect debility, and call for depletion? Can any thing then be more absurd than the opinion of doctor Good that "whatever be its cause" in the disease in view we are to impose a vicarious operation upon the skin "by active diaphoretics;" will this not be a sure way of increasing by the stimulus, thus imparted to the general system the morbid action in the kidneys.

We are next, says doctor Good, to "endeavour to restore the kidneys to their natural action by general stimulants or diuretics." These articles that would invariably do mischief in congested states of the renal organs, would never be necessary, if not prejudicial, in the state of declination of the disease. If the kidneys assume their function in some tolerable degree, the presumption is, that the natural powers are balanced, and if we venture to excite the kidneys thus early, the presumption is, that we shall produce a renewal of the congestion, on the same principle that we would throw a convalescent back, in a case of fever, by giving a full meal of beef stakes.

We are well aware that there are many intermediate states of diseased action in the kidneys between the true *paruria inops*, and that of *nephralgia*. These we relieve in thousands of instances of fever patients, without aiming at it, or even thinking of it. In these cases we deplete and thus relieve the kidneys with other important organs. Where we neglect proper depletion the renal organs are as apt to suffer as any other. Nature has wisely provided that these organs, so highly important, should not easily be thrown out of play. They are often interrupted, to more or less extent, but very rarely, indeed, so much disturbed, as to cease their function entirely, till the general wreck of the machine shall involve them in the general ruin of dissolution. But as we have been treating upon total suppression, we wish our speculations, and our practical remarks, to be confined to that form of renal disease. Any thing said involving other states of these organs have only been used by way of illustration.

There is yet one very important circumstance connected with the case of doctor Hayward, which we think proper to notice. We are told that the right kidney "was of about half the usual size;" and, that, "the left kidney was not larger than an English walnut." This fact we think goes to prove that the patient did not die of acute disease, but by the super-vention of acute disease upon a chronic affection of the kidneys. It is therefore all important to ascertain whether true *paruria inops* is owing to

such defection, or whether it can occur as an idiopathic affection, which we consider extremely doubtful?

It will not be insisted on that the kidneys would become thus wasted in a few days; on the contrary, there can scarcely be a doubt but this was a case of atrophy of the kidneys. It will follow, that when doctor Hayward was called in nothing was to be done; and as the disease may have stolen on in disguise, perhaps there was no period at which any good could have been done.

It is certain, we think, that in the case before us there was sanguineous congestion of the renal organs, which supervened upon a weakened and wasting condition of those organs; and, admitting that we could have recognized this state of congestion, it ought to have been treated by copious sanguineous depletion, both general and local—in short, as we treat inflammatory congestion of other important viscera. If we are correct in our opinion respecting this state of atrophy of a chronic character, and necessarily fatal on account of organic destruction, the only question, is, whether suitable depletion might have been available in relieving organs thus reduced in their substance and energies, so as to have enabled them to perform their office sufficiently to have protracted life to some future period. We think this would sometimes be the case under very serious organic impairment.

We are much inclined to predict, that true *paruria inops* will be found to be dependent upon atrophy of the kidneys, and that some of doctor Good's cases of this affection, must be referred to the head of *paruria erratica*. The essential characteristic of the former, we suppose to be organic impairment of the kidneys, with or without super-induced disease. The latter a temporary interruption of their function, without organic impairment. In the first case, we may attempt the cure of any adventitious acute disease; in the latter, we treat the case on general principles; expecting that when the kidneys are enabled to resume their function, we may hope to have complete restoration of this function, whether there be a state of vicarious action or not, provided the injury arising from the retention of the urea, in the blood, be not such as to subvert the sensorial energies, either by its too long continuance, or by its excessive quantity.

We consider it a duty to point out here a dilemma into which doctor Good has fallen respecting diseases of the kidneys. In vol. 4. p. 351, speaking of *paruria erratica*, "in most instances it is not a vicarious discharge; in other words. a secretion of a different kind compensating for the absence of urine, but a discharge of an urinous fluid, apparently absorbed after its secretion by the kidneys, and conveyed to the outlet at which it issues." Is not this a gross absurdity to suppose, that while the kidneys secrete urine there can be any regurgitation of the urine into the blood? Surely, if there be such a thing as disease from retention of the materials which should go to form the urine, it must, in all cases, arise from defect of action in the kidneys; if these act, the blood must be relieved.

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ART. XIII. *Case of Emphysema Cellulare*. By JOHN L. YEATES, M. D. of Baltimore.

AT the request of doctor Jameson, I communicate the following particulars in relation to the remarkable case of Emphy-

sema Cellulare, which occurred in the child of J. B. of this city, aged about four years. I visited this child on Tuesday, September 8th, of the current year. He was then playing about the house, but affected with a swelling of the whole body very remarkable at first sight; his complexion was good, but the eyes were too small, compared with the other features; by reason of the great distention which had taken place throughout all the cellular substance—a more accurate examination exhibited the abdomen tense and hard, and the general swelling of such a firm, and unyielding character, as to preclude the supposition of Anasarca. The appetite was good, and the evacuations regular, except the urine, which was thought to be somewhat diminished in quantity; there were occasional complaints of slight pains through the epigastric and hypochondriac regions; but the pulse seemed perfectly natural. The mother informed me that the child had received no accident or injury, but had been subject to severe cholic pains from birth, and, for a few months past, there had been difficult respiration upon taking moderate exercise. A cathartic of jalap and supertart potash was administered, which acted well, and on the 10th, a second dose of the same medicines, succeeded by ol. ricini, which also operated freely; and, on the morning of the 11th, I found the child again at play in the house, and, apparently, in better health, the swelling having abated in some slight degree.

It was now thought proper to suspend all medicines for a short time; but I was sent for in haste on the morning of the 13th, and saw him about 1 o'clock of that day, at which time he was exceedingly prostrated, the swelling having increased considerably, and the pulse, so well as it could be felt through the integuments, (greatly distended as they were,) was so exceedingly frequent and feeble, that it could not be counted. The respiration was greatly hurried and difficult. A bladder, about the size of a hazle-nut, had been formed at the extremity of the glans penis, which, however, did not obstruct the orifice of the urethra, although there was a suppression of the urine, which had existed from the evening before, at which time, the mother informed me, he had been taken suddenly with the symptoms above described, and had so continued, with little or no alteration which she could perceive; fomentations, frictions, &c., were advised; and, he was immediately visited by my friend, doctor Brevitt. We prescribed: Rj. rad. scillæ gr. iv., pulv. ipecacu gr. x. m. ft. pulv. j. This was administered and repeated in fifteen minutes afterwards; but it made no sensible impression on the stomach, there being no appearance even of

nausea. At about half past 5 o'clock, P. M., this child died without a struggle.

We did not obtain permission to make a *post mortem* examination until within a very short period of the time allotted for the funeral, and in consequence it was hastily, and in some measure imperfectly performed—we found, however, that the swelling of the whole cellular substance had continued to increase after death; the stomach and intestines were completely filled with air, the cavity of the abdomen containing a little water, but not enough to constitute formidable disease; whilst the liver, &c., appeared sound and healthy. As I do not recollect ever to have seen a similar instance, and am unable to assign any adequate cause for it, I submit the case without comment.\*

#### ART. XIV. *Observations on Emphysema.*

By HORATIO G. JAMESON, M. D.

Notwithstanding the fact that so few writers have afforded us much information on the subject of emphysema, still from the considerable number who have noticed different varieties of this affection, there is much reason for supposing, that it is not so rare a disease as many have been induced to believe.

Different diseases, as small-pox, lues, and other maladies, have come in upon the medical world with no inconsiderable uncertainty as to their origin or first appearance, yet there is good reason for believing that the former must have afflicted mankind long before the existence of the Arabian schools of medicine, where that disease was first clearly recognised. And without turning back from modern and recent date, we may recollect the singular fact, that it is to Mr. John Burns we owe

\* [Our readers will not be surprised at the declaration of our respectable friend, that he had not seen a case similar to the one he records.

It has not fallen to our lot in a practice of nearly thirty years to have seen a similar case. Different varieties, of what may be termed spontaneous emphysema, in contradistinction to that occasioned by wound of the lungs, have been slightly noticed; but as all the information of importance within our knowledge has been collected by doctor Good, we do not deem it necessary to turn the attention of our readers to any other source for information.

Four varieties of this affection have been noticed by different writers, general emphysema—of the abdomen—of the uterus—and of the stomach and bowels. We have seen two of the varieties—that of the abdomen, and of the uterus.

Intending briefly to notice this subject in our next article, we forbear any further remarks upon the case of doctor Yates.] Editor:

the first regular account of fungus hematodes, and yet this disease has not only been recognised by several respectable medical writers since Mr. Burns; but our Journals, and our practice, are constantly adding to the number of victims to this formidable disease. If the profession were thus long in clearly recognising this terrible and frequent disease, is there not a strong inducement that we vigilantly look out for emphysema, that we may find out its nature, and its antidote, or decide with due caution that it is not one of the ills which man is heir to, except in so limited a degree as to do mankind little injury.

We have determined to explore this subject with attention, but this must be the work of time, we shall, therefore, content ourselves at this time, by citing the information which we deem important from doctor Good. In doing this, we hope to show that emphysema has been seen by many writers of all nations, and to awaken the attention of the profession in this country to the subject; we shall therefore be truly thankful for any information on the subject, which may be afforded by our correspondents. If it be a rare disease, we see by the case reported in this Journal by doctor Yeates, that it may destroy life. We deem proper to quote from doctor Good's 5 vol. p. 342, all the names by which the several varieties of emphysema have been known,—this will show that the disease, though but little understood, has been recognised by several medical authors.

Doctor Good tells us that "**EMPHYSEMA**" is characterized by an "elastic, and sonorous distention of the body or its members, from air accumulated in natural cavities." He then goes on to give the following list of names by which this affection has been distinguished.

"**Emphysema**" (so called by) Galen, Dioscorides, Young, Parr.

Windige wassersucht,\* German.

Our author makes three varieties of this disease. These are the *emphysema cellulare*, *emphysema abdominis*, and *emphysema uteri*.

"1. *Cellulare*. Tense, glabrous, diffusive intumescence of the skin, crackling beneath the pressure of the finger.

*Emphysema cellulare*. Young.

*Emphysema pneumatosis*. Parr.

*Pneumatosis*. Sauvages. Cullen.

\* It would appear from the meaning of the German name *Windige Wassersucht*, as if the disease had been understood by those who gave it this name.—viz. windy dropsy, which appears to have been the nature of the disease reported by doctor Yeates. But when the German name is applied to *emphysema* of the uterus, it is not significant, since we believe no such thing as *Windige Wassersucht* des mutters has been seen.

*Empneumatosi*. Cælius Aurelianus:

*Sarcites flatuosus*. Smetii.

a. A *Vulnere*. From a wound of the thorax.

*Pneumatosi a vulnere*. Sauvages.

*Pneumatosi traumatica*. Cullen.

b. A *veneno*. From fish-poison or other venom.

*Pneumatosi a veneno*. Sauvages.

*Pneumatosi venenata*. Cullen.

"2. *Abdominis*. Tense, light, and equitable intumescence of the whole belly; distinctly resonant to a stroke of the hand.

*Hydrops siccus et flatulentus*. Hippocrates.

*Tympania*. Galen.

*Tympanita*. Sennert.

*Tympanites*. Sauvages.

*Emphysema tympaniticum*. Young

*Emphysema tympanites*. Parr.

*Windige wassersucht des bauches*. German.

*Tympanite*. French.

*Tympany*."

"The *Tympanites intestinalis* of authors, like the meteorismus of Sauvages, is a variety, sometimes only a symptom of dyspepsy, worms, hysteria, or some other disease affecting the intestinal canal.

"The very singular case of Margaret Dog, related by doctor A. Monro, in the *Edinburg Med. Essays*, vol. 1. p. xxxi, seems to have been of a mixed character, a real tympany, with irregular inflations of different parts of the alvine canal.\*

"Found also in the last stages of enteritis, and some species of hernia, from evolution of air, in consequence of putrefaction.†

"3. *Uteri*. Light, tense, circumscribed protuberance in the hypogastrium; obscurely sonorous; wind occasionally discharged through the mouth of the uterus.

*Physometra*. Sauvages, Sagar, Cullen.

\* By turning to the particulars of this case, we shall be surprised at the opinion expressed by doctor Good, that it was of a mixed character, a real tympany, with irregular inflations of different parts of the alimentary canal; "since we are told," the inflation continued for at least three months, the belly being so extremely distended as to endanger its bursting; and *sometimes detumefied*, at which last periods a variety of unequal and protuberant balls were felt all over the abdomen, and seemed to indicate as many intestinal constrictions." Are we to suppose occasional absorption of the air supposed to constitute the more general swelling? Or is it not more rational to believe that all swelling was owing to intestinal distention, and that the more or less regularity of the abdominal distention, was owing to increase or diminution of the intestinal inflation.

† We have several times witnessed this scrotal emphysema in protracted cases of hernia—it exists sometimes prior to gangrene.



Hysterophyse. Vogel.  
 Emphysema Uterinum. Young.  
 Inflatio uteri. Sennert.  
 Windige wassersucht des mutter. German.  
 Tympanite de la matrice. French.  
 Tympany of the womb."

"Doctor Good has made the following remarks upon the above arrangement of names *Ἐμφυσημα*, from *φύσσω*, "inplow," "flatu distendo." "There is some doubt by what means the air is produced in various cases in which it is found in great abundance; for we cannot always trace its introduction from without, nor ascribe it to a putrefactive process. In one instance (observes Mr. Hunter,) I have discovered air in an abscess which could not have been received from the external air; nor could it have arisen from putrefaction."

Our author treating on the three species of emphysema, in vol. 4. p. 290, which he names in his tabular view in vol. 5. p. 342, commences his observations with emphysema cellulare, and says—"This is the pneumatosis of Sauvages and Cullen, and consists in a distention of the cellular membrane by air instead of water, as in hydrops *cellularis* or anasarca. The distention is sometimes limited to particular parts of the body, and sometimes extends over the entire frame. From the remarks which we have offered on the probable separation or secretion of air from the blood, this disease may originate from various causes, and exhibit itself under various modifications; *but the two following* are the only *extensive forms* under which it has hitherto been traced.

- |                        |                                 |
|------------------------|---------------------------------|
| a. A vulnere thoracis. | From a wound in the chest, with |
| Traumatic emphysema.   | sense of suffocation.           |
| b. A veneno.           | From fish-poison or other ven-  |
| Empoisoned emphysema.  | om, with extensive signs of     |
|                        | gangrene and putrescency.       |

Now, if it be a fact, as stated by doctor Good, that emphysema from wounds, and that from venom of fish, &c. are the "*only extensive forms* under which it has hitherto been traced, then the case reported by doctor Yeates is such as has not been met by our learned author, in his voluminous reading.

As it is not our intention to enter into an investigation of the subject of traumatic emphysema at this time, we pass over the remarks on this variety of the disease, in the work before us.

We are told that Mr. Kelly, in the *Edinburg Medical Commentaries*, has given a very singular case of this affection "which was occasioned by a rupture of the cellular membrane by ulceration. The air having escaped into this membrane,

passed down the side affected to the scrotum; and gradually extending, by the fourth day it extended over the whole body. The patient being in imminent danger from suffocation, doctor Monro tapped the thorax, and gave vent to a blast of air which blew out a candle. The patient was immediately easy. Afterwards punctures were made at times, when the *air could be pressed out*. The patient recovered gradually, and enjoyed good health nearly a year, when he was overtaken with hectic, and other symptoms of consumption, of which he died in about six weeks. The lungs were found much diseased—there being tubercles, adhesions, pus, &c.

By turning to the case of doctor Yeates, we are told that the mother of the patient informed him, that "for a few months past, there had been difficult respiration, upon taking moderate exercise." Is it likely that the emphysema, in this case, was owing to an opening of the bronchia and investing membranes of the lungs, by which the air escaped, and found its way throughout the body? The only striking objection to such an opinion, is the fact, that such swellings generally run their course rapidly. On this point we are however not particularly informed. The attendance of doctor Yeates commenced on the 8th of September, and the patient died on the 13th. The swelling we are told was "of such a firm, and unyielding character, as to preclude the supposition of anasarea." What would have been the effect of punctures, as in the case of Mr. Kelly, operated on by doctor Monro? We will not presume to decide, but it surely is a rational remedy. The presence of water in the abdomen may have been an accidental association. For ourselves we would recommend the punctures.

"In the second variety, (says doctor Good) or upon the introduction of fish-poison, or that of several species of the mushrooms, or numerous edible venoms into the stomach, is not easy to account for. In most of the cases, there is so violent and general a disturbance of every function, as to produce extreme and instantaneous debility; all the precursors of debility are present, and speedy dissolution threatened. Every part of the body is swelled and inflated, particularly the stomach and intestines, the vapor of which when examined after death, is found to consist of a fetid and putrid gas." This author goes on to enumerate the symptoms of emphysema from poisoning, and, then, thus concludes—"In a few words, we never cease to find a free extrication of air, wherever the body or any part of it is running rapidly into a state of putrefaction; and hence another cause of cellular emphysema, and a cause that is perpetually occurring to us in gangrene."

Empoisoned emphysema appears to be a very rare disease, as a general affection we have never witnessed any thing of the kind, nor does doctor Good speak of it as a disease which he had seen, though he speaks familiarly of its symptoms.

We have seen a case of fatal emphysema abdominis in a cow, from eating the mountain laurel. In this case, as we see in general in animals dying suddenly, from whatever cause, there was almost immediately general swelling added to enormous distention by inflation of the abdomen. But there was no visible distention except of the abdomen prior to death, in the case to which we allude.

*Emphysema Abdominis*. In Good's 4th vol. p. 293, we are informed that most writers apply the term tympanites to collections of air in some part of the alimentary canal, which form of the disease has been termed by Sauvages, tympanites intestinalis. And that doctor Cullen confines his attention to this form of the disease in his first lines. But doctor Good expresses as his opinion, that such affections are seldom, if ever, any thing more than the symptom or sequel of some other disease, as, hysteria, dyspepsy, colic, worms, &c. But that Mr. John Hunter was of the opinion, that the stomach, like the uterus, sometimes takes on a morbid action, by which air is generated by being secreted by the vessels directly, and not by its evolution from the ingesta. It is true, we think, as said by doctor Good, that we cannot bring any "absolute proof of this taking place in the stomach," but if we see it existing in the uterus as a secretion, why may it not also occur in the stomach?

We are reminded here of a curious occurrence in our own person, which, though not directly in point, is sufficiently remarkable to deserve a passing notice. When extremely prostrated by bilious fever, the prevailing symptoms of which were the most extreme nausea, and perversion of taste, we were advised to take a dose of charcoal—a tea spoonful was taken, in a little water. The stomach became instantaneously distended to a most agonizing extent. In whatever way generated, in less than half a minute, the stomach was inflated, we think, to its utmost limits; and not only was there a distinct perception of distending pressure, but we clearly perceived the stomach dilate like a bladder; and we were induced to believe, that the distress was such as would have proved fatal in a few minutes; but, nature came to our relief; the stomach became deadly sick, the cardiac orifice relaxed, and copious discharges of air and fluids were thrown up; leaving us in a few minutes pretty much as before taking the charcoal. We have never repeated the

article, and, at that time, nothing could have induced us to risk its repetition.

We presume every practitioner must be familiar with the vast quantities of air which are generated, and expelled from the stomach of some females, in cases of hysteria and dyspepsy in complication; but we cannot consistently associate such affections with those in which the air is confined to cavities, and formed by secretion, or, at least, out of the circulating fluids, whereas in cases, so far as we have any absolute proof, flatus, of the alimentary tube, is the result of chemical changes of the ingesta, owing to defect of the digestive function. And if Mr. Hunter be right in the supposition, that the stomach may give out air, as does the uterus, we neither can nor need distinguish such cases from common flatus.

We fully concur in the sentiment expressed by doctor Good, when he says, "notwithstanding the incredulity of some practitioners," there are some cases in which, "the resonant swelling of the belly is produced by air collected in the sac of the peritoneum." It is unquestionably a rare disease, though we must contend, in the language of doctor Cullen, that "from several dissections it is unquestionable that such a disease has sometimes truly occurred. Nor can we suppose such accurate and cautious pathologists as Heister, Lieutaud, and Bell, who have respectively given examples of it, have all been mistaken." It is said to have originated from mental excitement, as also from hepatic, and other visceral affections.

Examples are given of spontaneous relief, by rupture of the abdominal walls at the navel, from ulceration or mortification. These examples serve to point out the propriety of attempting to relieve by an artificial opening. And it is obvious upon a moments' reflection, that we must provide against the inconvenience or risk of suddenly emptying the abdomen, and thus taking off an accustomed pressure upon the thoracic viscera, by applying a bandage, as in cases of tapping for dropsy. Neither our reading, nor our experience, enables us, at this time, to offer any thing satisfactory on the mode of treatment in cases of tympany. We shall therefore defer any particular remarks, to some future period. It is proper however, to object to one of the practical conclusions of doctor Good, on the subject of emphysema in general.

"Emphysemas, like dropsies, are in all cases, disorders of debility." Who will subscribe in the present day to this sweeping assertion, *that dropsies in general are diseases of debility?* Nevertheless, we are inclined to believe, from all we know of spontaneous emphysema, at present, that it is a disease

of debility, unless associated with dropsical inflammation—and therefore relief is to be sought for among such remedies as tend to invigorate the constitutional powers. Among these we approve of “a tonic regimen, with exercise, and particularly equitation,” and at the same time relieving occasionally by punctures, and supporting the affected parts with suitable bandages.

Before closing our remarks under this head, we shall briefly relate a case of *emphysema abdominis*, which occurred in the person of a lady of this city some few years since. This patient died after protracted suffering of disease of the spleen. Several weeks prior to her death, she was much distended in the abdomen, with a collection of wind. Her suffering, being very urgent from a dropsical affection of the spleen, with much enlargement of this viscus, and there being no peculiar indication arising from the distention, as she did not appear to be made worse by the presence of the flatus, nothing was done with special reference to the tympanitic affection. We consider this case so interesting in its details, that we purpose at some future time reporting it, and will merely add here, that upon opening the abdomen after death, we found a small opening into the colon, through which air may have escaped, but none of the intestinal contents ever escaped into the cavity.

Since many writers have recognized *tympanites intestinalis*, and as many recommend evacuating the air, we think it important to warn young members of the profession, of the possibility of danger from mistaking *tympanites* of the intestines, for that of the peritoneal cavity, since much mischief, and mortification of feeling, might arise from puncturing the abdomen with a view of letting out air, which was confined in the intestines, and not in the abdominal cavity. We believe the following case is calculated to show, that such mistakes might happen to the rash, incautious, or ignorant practitioner.

Doctor Good relates a case reported by doctor Monro, in the *Edinburg Medical Essays*. “The patient was a young woman, aged twenty-two. The inflation continued for at least three months, the belly being sometimes so extremely distended as to endanger its bursting, and sometimes detumefied, at which last period, a variety of unequal and protruberant balls were felt all over the abdomen, and seemed to indicate so many intestinal constrictions. The patient’s appetite continued good, she was very costive, and menstruated only at intervals of several months. She was at length attacked with *borborygmi*, and a day or two afterwards had such explosions of wind  
αὐτὴ καὶ κατὰ, that none of the other patient’s could remain

in the same room, and hardly on the same floor with her. From this time she recovered gradually."

It is obvious from the details of this case, that if this patient had been examined during the periods of extreme distention of the abdomen, that it might have been mistaken for general emphysema of the abdomen; and, yet, in the time of the detumescence, and existence of intestinal balls or constrictions, the case could not readily have created any difficulty, in arriving at a correct opinion of its nature.

*Emphysema Uteri*.—In the tabular view of emphysema taken from doctor Good, we have stated that this form of the disease has been mentioned by several writers, under different names. These we need not repeat in this place, but it may not be unimportant to repeat, that this disease has been noticed, by most of the more distinguished nosologists, still we are told by doctor Good, that, *its existence has been denied by several writers.*" We have also the following extract from the work of doctor Denman. "It has been said that wind may be collected and retained in the cavity of the uterus, till it is distended in such a manner as to resemble pregnancy, and to produce its usual symptoms; and that by a sudden eruption of the wind the tumefaction has been removed, and the patient immediately reduced to her proper size. Of this complaint I have never seen an example; but many cases have occurred to me of temporary explosions of wind from the uterus which there was no power of restraining."

Similar cases were seen by Mr. John Hunter. Being anxious to ascertain whether there might not be a fistulous opening between the rectum and vagina, he obtained leave to examine the parts in one case, and found them free from disease. This woman afterwards died, and Mr. Hunter had the opportunity of examining post mortem, and found, notwithstanding the collection and expulsion of wind, from the vagina, no traces of disease could be found in the vagina or uterus, which very naturally led him to the conclusion, that the uterus, (and he thought the stomach also,) might take on the office of secreting the gas.

It appears that neither doctor Denman, nor Mr. Hunter, ever met cases of distended uterus from flatus, but if we know from the facts recorded by these authors and others, that the uterus does sometimes secrete air, can we undertake to say that under such circumstances there may not happen to be a closure of the os uteri, and, if there is, of course we shall have uterine distention. This, indeed, is related as having been the case in some of the instances on record.

Doctor Good proposes the introduction of a tube to relieve the vagina from the air. We do not see that this could be attended with much advantage. We do not believe that any particular uneasiness will arise from the accumulation of air in the vagina. The closure of this passage is not such as to oppose any great resistance to the passage of the air, as it escapes from the uterus into the vagina. We are also advised to try the use of tonic or astringent injections, into the uterus. This may be very well, but we believe, that, little reliance can be placed on these local remedies. We think it will be found that this disease is dependent on, or accompanied by a state of atony of the uterus; and we should expect decided advantage from the use of ergot, given so as to produce some irritation of the affected organ.

We well remember some of the more remarkable circumstances of a case of this disease, which we saw about the year 1800, at Wheeling, Virginia. The subject of this disease was a lady upwards of forty years, the mother of several children, one of whom was perhaps twelve or thirteen, and one quite young. Mrs. Perrine, the lady in question, was a sensible and very amiable woman, but subject occasionally to pretty violent spells of hysteria. During these attacks, which sometimes confined her to bed for a day or two, often for a few hours violently ill, there were very considerable discharges of wind, per vaginam, attended with an audible noise. Whether it existed at other times we do not now recollect. We treated this patient with a view to relieve the hysteria, which yielded from time to time to antispasmodics, aperients, &c., without reference to the state of the uterus specially. She was constitutionally sprightly, and a lady of rather uncommon volubility.

So far as we now recollect, she did not seem to suffer any other inconvenience from the emphysema, other than the extreme annoyance from it. She was a woman of considerable refinement, and disposed to cheerfulness when free from nervous derangements, (which was often the case,) but her habit being, upon the whole, irritable, the mental agitation arising from the annoyance, on the score of delicacy, we have no doubt, tended to augment the hysteria. We parted with this lady many years since, and know not what has since fallen to her lot, but we do not believe that any future evil arose from the emphysema uteri.

We trust our readers will excuse the length to which we have extended this article. We offer it as the ground work of an extended examination of this subject, which, we believe,

has but little engaged the attention of the profession. The very fact of its being rare is the cause of its being little noticed. Every disease, however rare, that does sometimes greatly distress, and sometimes destroy life, is entitled to the serious attention of the profession. If we have nothing original to offer, we hope to be usefully employed, in forming such a digest, of what may have been written on this disease, as will aid the memory of those who are willing to lay up knowledge, in advance of its expected application.

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ART. XV. *On Aneurism and its cure, by a new operation.*

By JAMES WARDROP, Surgeon to his Majesty. Taken from Johnson's Journal, for July, 1829.

WHAT we have to offer on this subject at present, consists principally of remarks of doctor Johnson on a work lately published by Mr. Wardrop, in which is advocated the application of ligatures in cases of aneurism on the side most distant from the heart, or what is technically called the *distal side*. Not having seen the work alluded to, and believing that the facts stated are of great importance, we offer to our readers the remarks of doctor Johnson upon the "new operation," recommended, and practised, with success by Mr. Wardrop. Editor.

"In contrasting the modern surgery of aneurism with the treatment of it a century ago, it is gratifying to observe how much science has done for the alleviation of a disease, which at an earlier period must have proved almost always fatal. Amputation no doubt afforded occasional relief, but in aneurisms of the great arteries, such as the axillary and external iliac, surgery afforded little or no resources; and if nature did not in a few instances, manifest her extraordinary powers by a spontaneous cure, death alone terminated a miserable train of sufferings.

"To English surgeons almost exclusively belongs the merit of having raised the pathology of the arterial system to its present improved condition; for notwithstanding the attempts made, particularly on the continent, to deprive him of the honour, it was Hunter who first established practically those principles which afterwards emboldened an Abernethy and a Cooper to apply ligatures upon the great arterial trunks, the integrity of which was at one time deemed indispensable to the existence of the organs they supply.

"In the second volume, after the preliminary observations in which the nature, formation, terminations, &c. of aneurism are detailed, Mr. Wardrop proceeds to give an historical account



of its pathology and treatment by Hunter and his successors. It was generally supposed by them, and even some modern surgeons, that, in cases where a ligature is applied to an artery on the cardiac side of an aneurism, the circulation is completely suspended in the sac. Sir Everard Home, however, observed, that this was not the fact; but, on the contrary, that the circulation, though interrupted, was still partially continued, and that this diminution in the force of the circulation, was alone sufficient to ensure, sooner or later, the coagulation and subsequently the consolidation of the blood in the sac. This fact Mr. Wardrop states, enables us to establish a new principle for operating in aneurisms so situated, as hitherto have been considered beyond the reach of art, and to which the Hunterian principle of operating is totally inapplicable.

"The operation here alluded to by Mr. Wardrop consists in applying the ligature to the *distal* instead of the cardiac side of the aneurismal tumour. The operation was suggested by Bradsdor, Professor of surgery in the Paris school, forty years ago, and was subsequently executed, but without success, by Deschamps, in a case of aneurism of the femoral artery close to Poupert's ligament. Finally, the operation was performed in this country by Sir Astley Cooper, in a case of aneurism of the external iliac artery, with the same unfavourable result. It was then abandoned, and some of the arguments adduced against its repetition, were, that a ligature on the distal side of an aneurismal tumour would cause the blood to accumulate in the sac, and thereby risk its being mechanically burst by the force of the circulation; or that the attenuation of its walls by distention would excite inflammation of the sac which occasionally proves fatal.

We are here reminded of a passage in the English edition of Boyer, edited by doctor Stevens of New York. Vol. 1. p. 282, we find the following account of an operation, before Mr. Hunter was born. "The second method of practising the operation of aneurism, is known under the name of the *new method*, or the method of Anel or Hunter. Anel says, that, being at Rome on the 30th January, 1710, he performed this operation for aneurism at the fold of the arm, on a missionary of the Levant, in the presence of Lancisi and several other professional persons. The aneurism had been caused by bleeding. Anel performed the operation in the following manner. The course of the blood being suspended by a tourniquet, he cut the integuments on the passage of the brachial artery *below the seat of the aneurism* without touching the seat of the tumour in any manner; searched for the artery, and separated it from the adjacent parts, particularly the median nerve; and having raised it by means of a hook, tied it as near the tumour as possible. The tourniquet was again slackened. A small muscular branch, which had been cut in dissecting the artery, giving a little blood, the tourniquet was again tightened, and

he once more tied the artery a little higher." By turning to page 284, we read—"The example given by Anel, of tying the artery *above the tumour*, without touching this last was lost for practice till the month of June, 1785, when, we are told, Desault operated, and, that, Mr. John Hunter's first operation was in October of the same year, and of course subsequent to that of Anel. We have it not in our power to remove the dilemma in which this language has left Boyer or his editor—at page 283, the ligature is said to be *below* the tumour, in the next, we are told it was *above*."

But whatever may be claimed for Anel, and Desault, in these instances, the claim which doctor Johnson makes in favor of British surgery is certainly just. And if we must admit that Anel did once operate, it was wholly lost till after Hunter's time; and there is no doubt, notwithstanding the discrepancy which we have noticed, in relation to Anel's operation, that Hunter not only was the means of propagating the "new operation," but that he absolutely invented it. Where was he to see any record of Anel's case? And, again, if we admit that Bradsdor proposed this operation forty years ago, in France, on the distal side of an aneurism, the merit due to Mr. Wardrop is no less than if he had been its inventor, since it was dismissed as a dangerous and inefficient method. Upon the whole, therefore, we agree with doctor Johnson, with a little modification, when he says—"to English surgeons, almost exclusively, belongs the merit of having raised the pathology of the arterial system to its present improved condition." When thinking on this subject, we should not forget the names of Mr. J. Bell, Mr. Allen Burns, Seign. Scarpa, and some men in France; nor can we justly overlook the gigantic improvement of doctor Physick in inventing the animal ligature.

"Now Mr. Wardrop asserts, that the first objection is utterly groundless, and that the reverse is the fact "when the ligature (he observes) is placed on the distal side of the aneurism, we know from experience, that there is immediately a diminution of the bulk of the tumour. The fluid blood can find in such a case a ready exit back from the sac into the trunk from whence it came, and thus again passes into the circulation, in place of, as in the other case, having to pass through capillaries into the veins, and as nature immediately finds a new channel, there is no more blood impelled into the tumour afterwards."

We have already stated that we have not seen the work of Mr. Wardrop, we are therefore not acquainted with the facts and arguments, by which Mr. Wardrop supports his opinion, that the blood continues to circulate through an aneurismal sac, we shall, therefore, not attempt more than a hasty examination of the point in view.

We think extreme caution is required, in our attempts at generalization of subjects which involve so many remarkable, and, indeed, almost endless varieties, as to facts, phenomena, &c. Our own experience and brief reflections on this subject, lead us to believe, that in general, the opinion held by Mr. Wardrop, that more or less circulation continues through an aneurismal sac, after the application of a ligature, is correct, but that there are exceptions, so common as to require much caution in the application of this opinion to practice.

Much will depend upon the situation of the tumour as relates to anastomosing branches—this condition of things will be most likely to exist in greater degree near joints, owing to the influence of recurrent vessels—also at the root of the neck, owing to the shortness of some of the vessels. The following case will throw some light on the subject. We tied

the external iliac artery in a case where an aneurismal tumour, which occurred at Poupart's ligament, was suffered to progress till a very large sac was formed out of the cellular structure of the part, so large as to have carried up the peritoneal sac, with the contained intestines, some inches. The adhesions were so slight that after exposing the parts, by the incisions recommended by doctor Dorsey, we separated these sacs, and succeeded without any particular difficulty in tying the external iliac pretty near the internal; just as we finished the application of the ligature the aneurismal sac bursted. Some of the coagula were removed, but so irregularly was the blood stuffed in among the meshes of the cellular membrane, that it could not be removed except in part. In a day or two the integument sloughed, owing to its having been pointed, and on the point of bursting at the time of the operation. Here, then, is a case of very large aneurismal sac ruptured three or four days after tying the artery, and no hemorrhage took place. This case, so far as it goes, is directly at variance with the opinion of Mr. Wardrop, that the blood circulates through aneurismal sacs.

We will now proceed briefly to detail a case tending to the opposite, and, therefore, corroborative of that gentleman's opinion. We tied the femoral artery in a negro woman of middle age, for an aneurism situated on the inner side of the ham, and resting in part in the head of the tibia, and showing a disposition to increase principally in the anterior direction. It had been neglected till the integuments were on the point of giving way, and in a few days this took place. Some hemorrhage took place, but it was not considerable. Some fungus sprouted up among the coagula, and much trouble attended the frequent discharges of blood, often requiring compression, by means of sponge or lint. This state of things continued for many months. She was finally much relieved, but not cured, when we lost sight of her; and, we know not what was the result of the case. We mention it now from memory, with intent merely to notice the fact of some bleeding taking place, upon the bursting of the sac, but not to any great extent.

These cases, with many others on record, go to establish one important point, which is, that the method of Mr. Wardrop is best suited to cases not very far advanced; and that where there is danger of sloughing from attenuation of the covering, the risk of bursting must be imminently great upon tying a vessel on the distal side.

"Mr. Wardrop gives four cases in illustration of the practicability of the operation. In the first he operated himself under the most unfavourable circumstances, the patient being seventy-five years of age, and applied the ligature on the distal side of an aneurism of the carotid artery with perfect success. An account of three similar cases follows, the first two of which were not so successful, but the last, which was performed by doctor Bush, is said to have been completely successful. Having thus detailed the particulars of these operations, the author proceeds to make an application of his principles to the cure of aneurism of the arteria innominata. In doing so he observes, that the process employed by nature in the spontaneous cure is precisely analagous to that which takes place in the cure by the Hunterian operation; for in both cases the coagulation of the blood proceeds from the circumference of the sac towards the

centre. From this fact Mr. Wardrop was led to infer that "in cases of aneurism of the arteria innominata, the progress of the disease might be arrested by tying its two great branches, the carotid and subclavian; and although a certain portion of blood would still continue to pass along the innominata to those branches of the subclavian on the cardiac side of the ligature, the ligature being necessarily placed on the subclavian after it emerges from between the scaleni muscles, yet such would be the diminution of the impetus of the blood in the sac, that the process of thickening of its parietes would not only go on, and thus its future increase be prevented, but even a permanent obliteration of the aneurismal cavity would be accomplished. This view is supported by the fact, that, in all cases of aneurism of any growth, we invariably find laminæ of coagula adhering to the internal surface of the sac. It is the process which nature adopts to cure the disease, by gradually filling the sac with successive deposits, until at last the cavity be so completely plugged up as no longer to admit a column of blood to pass through it. Now if we can diminish the column of blood passing through the sac of an aneurism, we must powerfully assist nature in her efforts to consolidate the contents; for, according as the blood admitted through the sac is lessened in quantity, the greater will be the disposition in the blood contained in it to coagulate. To this, some have objected that the collateral branches enlarge so much, that the usual quantity of fluid circulates through the sac. Here, again, past observation has been deficient; for, as Mr. Wardrop observes, though the collateral branches do enlarge most considerably, immediately after the application of the ligature, yet in a very short time they again diminish in volume, though not quite to their original diameters.

We do not know how Mr. Wardrop undertakes to prove the fact that the arteries which become enlarged, after interrupting the circulation through an aneurismal sac. But if it be admitted, that the vessels which become enlarged to supply the place of the main trunks do contract, after the sac is contracted or obliterated, it does not by any means follow, that they will be disposed to contract so long as the sac remains capacious, and, the presumption is, that, in many cases, while the one continues, so will the other. That is, while the sac is large, the vessels are large; and while the vessels are large, what is there to lead to contraction? We shall be told the deposition will fill the sac, but if this be the case, then, the vessels in the sac, instead of being diminished, must be obliterated.

But it is doubtful whether vessels which become enlarged to take on a vicarious office ever become smaller. We will briefly cite two important facts, recorded by good authority, bearing on this point. Boyer mentions in his surgical work a case of a leg, upon which an operation had been performed for aneurism some years before, an artery of very considerable size was found running in the course of the great posterior crural nerve.

John Bell tells us, that in cases of dissection of the arm, after ligature upon the brachial artery, the anastomoticus branch was found much enlarged, and inosculating freely with the reflected branches of the ulnar artery.

Upon the whole, we think, Mr. Wardrop entitled to much praise for the improvement which he has suggested in the treatment of aneurism, but let us not be too precipitate in believing that this method is going to supercede that of Hunter. There are cases adapted to both methods, and others where to substitute the one for the other, would be to hazard a certainty for an uncertainty, and where, we should create unnecessary dangers, and incur certain disappointment.

"These views, founded on the pathology of the disease, and the observation of the phenomena of the spontaneous cure, emboldened the author to put his plan into execution in a well marked case of aneurism of the arteria innominata. In this case the pulsation of the right carotid, with its several branches, was not perceptible, so that its obliteration was presumed. A ligature was therefore applied to the right subclavian, and though many derangements of general health retarded its progress, the cure is said to be complete; for at the last report, the only appreciable remains of the aneurismal tumour, which originally was perceptible at the root of the neck, was an unnatural feeling of hardness above the clavicle. In this case nature had considerably advanced in the spontaneous cure by the obliteration of the canal of the carotid, so that art only was required by obliteration of that of the subclavian. In these instances, however, of aneurism of the arteria innominata, where both the carotid and subclavian are pervious, Mr. Wardrop advises the application of the ligature to the carotid first, and to the subclavian at a subsequent period. His views on that subject seem to have been attended with a more favourable result than could possibly have been anticipated, for, in a case of aneurism of the arteria innominata, lately operated on by Mr. Evans of Belper, in Derbyshire, the ligature of the carotid was alone sufficient for the cure, the subclavian having become *spontaneously* obliterated eight or ten days after the operation."

Finally, if it be a fact that "Mr. Evans" has cured a case "of aneurism of the arteria innominata" by the operation of Mr. Wardrop, that is, by tying the carotid artery, this is truly the most exalted pinnacle of modern surgery, and, we willingly shall consent to award the meed of honour and glory to whom it is due.

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ART. XVI. *Case of Chronic Edema, with disease of the Humerus.* By Dr. JOHN M. GIBSON, of Baltimore.

**I**N the month of May, 1829, I was requested to examine the right superior extremity of Mrs. S. Ashton of this city. I was

informed that she had been seen by several of the more eminent professional gentlemen of the city, none of whom advised an operation. The patient was in her sixty-eighth year, of respectable connexions, and herself rigorously strict in all her habits—from the time of discovering the disease, nothing had been done, on her part, likely to interfere with the means which had been employed for her relief.

She had submitted to the removal of a scirrhus mamma by the knife, upwards of a year before I saw her, to which succeeded, after some time, scirrhus tumours of the axilla, of a stony hardness, which acquired considerable magnitude, but were unattended by pain or soreness. The affection of the arm which now preyed upon her aged constitution, had been gradually increasing for nearly twelve months, and she was so extremely emaciated and enfeebled, as to excite apprehensions for her present safety.

Her sufferings, which had been gradually increasing, have now become excruciating, and are rendered almost daily more insupportable by the increasing weight of the arm. This after removal was ascertained to weigh nearly thirty pounds. Though resigned to the will of providence, she is willing to risk her safety to my judgment; and to submit to an amputation, if judged advisable.

Although the arm was enormously swelled, and so painful as to require the constant use of laudanum in pretty large doses, aided by a sitting position, nevertheless, upon a close examination of the limb, I discovered that a portion of the arm, a little below the axilla, was still but little involved in the disease, not having swelled much, nor did it present any other striking marks of disease.

Anxious to relieve this afflicted patient, if possible, I requested a consultation of some of my medical friends. All were fully aware of her critical situation, and although they were willing to second my views, and afford me their aid, they were apprehensive that the powers of the constitution were not adequate to accomplishing the necessary healing of the stump.

The limb was amputated about the middle of the deltoid muscle—nothing untoward occurred. The stump was dressed with dry lint. Her enfeebled condition required a pretty full cordial regimen, and the exhibition of tonics.

Upon examining the arm after its removal, it was manifest, if we could have doubted of it before, that the swelling and all the morbid phenomena attending the case, were occasioned by the pressure upon the blood vessels and lymphatics, by the indurated and enlarged axillary glands—it was obvious that the

lymphatics had more especially suffered, either from mechanical obstruction in their circulation, or from deficiency of nervous energy, owing to pressure upon the nervous cords as they passed the tumour in the lower part of the axilla.

This case so well calculated to excite our sympathies, was closely watched, and afforded the pleasing spectacle of a gradual cicatrization of the stump—and once more my patient was placed upon her feet.

Dissection of the exsected arm, disclosed disease of the humerus about its middle—there was a loosened state of a portion of the periosteum—this membrane was callous, and presented a diseased condition. Upon cutting into this part grumous matter was discharged; the texture of the bone was softened, and had a cancellated appearance; breaking through this gave issue to matter having the consistence and appearance of melted beeswax. The arm was enormously swelled, and highly inflamed, and the several textures much injected with a fluid of a whey-like consistence and colour.

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**ART. XVII. *Observations upon sanguineous inflammation.***  
By HORATIO G. JAMESON, M. D.

"A Protean case, commencing with ophthalmia, followed by Laryngitis, Gout in the stomach, Gastro-peritonitis and Dyspepsia. By Edward Jenner Coxe, M. D. one of the physicians to the Pennsylvania Institute for the "Deaf and Dumb." Taken from the American Journal of the Medical Sciences.

We consider this case, in every aspect in which we can place it, uncommonly interesting. In it we have a specimen of very extraordinary inflammatory action, alike remarkable for its high grade, and its obstinacy. And it serves to illustrate, in a very striking manner, the newest fashions in our antiphlogistic curative measures. We think doctor Coxe has treated his case skilfully, agreeably to the Broussaian practice; but as we belong to those who do not go all the way in the employment of new remedies, where the old have at least equal claims, and sometimes vastly more easily attainable, we will dispassionately examine whether we are to adopt the practice detailed, in cases of high inflammatory action; and whether a case may always be said to have been treated in the best manner because it was treated fashionably.

It appears that the subject of this case was a lady long subject to violent attacks of croup, which usually required copious

venesection for its removal. Soon after recovery from one of these attacks, of unusual severity, she was exposed out of doors, and overtaken with ophthalmic inflammation, for which some measures were employed. In the first night, after this attack, she was "suddenly seized with a violent increase of an affection of the larynx," which had existed slightly during the preceding day. She was bled to twenty ounces, a pediluvium, and a scruple of calomel, and warmth, by means of hot bricks to the feet were employed.

Next day, it is said, the "blood drawn last night gave decisive evidence of inflammation." "Notwithstanding the favourable appearance of all the symptoms during the day, they suddenly increased about eight P. M. to a very alarming degree, and as such had been the case in all her attacks of croup, and was dreaded in this, doctor Dewees had been called in consultation, it was determined in case of accession of symptoms, that leeches should be applied freely; *seventy or eighty were put on.*"—"As the affection of the eyes still continued, though not so violently as at first, about thirty leeches were applied at the time the throat was getting leeches."

We would ask here, where has the Philadelphia lancet concealed itself? There was a day when this noble moderator of inflammation stood as a monument to Benjamin Rush. And is Philadelphia the city of Rush forgetting the lessons which he taught, and the examples which he gave? Is a patient to be pestered with hundreds of leeches, (the presence of which is annoying to almost every one;) in a common inflammatory affection? We would have the reader remember, that here are one hundred and five or ten leeches, to do in an hour or two what the physician, (or perhaps bleeder,) could have done, more effectually, in five or ten minutes.

That these leeches were employed when the lancet would have done better, we infer from the fact, that it was afterwards used with much effect. The inflammation of "the larynx was evidently worse this morning." At four o'clock this afternoon *eighty leeches* were applied "with but temporary advantage."

The next day the patient was much troubled with dryness of the throat and great thirst—on account of this symptom, "small pieces of ice were every ten or fifteen minutes allowed to dissolve in the month." We would decidedly object to ice, or even cold drinks in acute inflammation of the throat, it will generally do harm. Her breathing being very laborious, and her throat very dry *sixteen ounces of blood were taken from the arm attended by much relief even while flowing*; for the very obvious reason that by abstracting the blood from the large vessels, we remove the tension of their coats, by taking away "the stimulus of distention."

We are told that this patient now suffered a violent attack of



gout in the stomach which yielded to the use of ginger tea, clove tea, brandy and water, the black drop by the mouth and by enemas, poultices of mustard, hot bricks to her feet and arms, carb. sodæ, &c. As the stomach became affected, the laryngitis abated and soon left her entirely.

"About eight o'clock, P. M. of the day subsequent to the attack of gout, evident symptoms of gastritis, complicated with peritonitis, made their appearance, and so violent and obstinate did this superadded disease prove for several days, that we were fearful that death would rob us of our fair patient." "From eighty to eighty-five leeches were applied to the abdomen, and so unconquerable was the affection, that for four successive nights we were obliged to have the same number applied each time, (in all about three hundred and forty,) before the violence of the symptoms abated."

Our attention has been drawn to this case on account of the extravagant employment of leeches; and as we believe, without one solid reason for such a troublesome, tedious, vexatious, and very expensive mode of practice. Who is there in the practice with the experience of twenty years, that does not know how easily inflammatory action is subdued by the lancet? If we find cases obstinate in requiring the repeated use of the lancet, so will they be found obstinate in resisting the use of leeches, as is so clearly manifest, in the case before us.

What experienced physician that has not witnessed the safety, and the success, attending the repeated use of the lancet to four, five, six, ten, or fifteen bleedings? We could detail cases in which ten or twelve bleedings were employed with success in peritonitis, gastritis, phrenitis, &c.

We will briefly relate a case which we deem interesting—our remarks are intended to apply to the bloodletting employed in the case. Sometime since we were in a consultation with two other gentlemen in a case of severe peritonitis, in the person of a delicate young lady. She had been bled three or four times, each detraction of blood attended with unpleasant prostration, amounting nearly to syncope. It became a subject of doubt whether this patient had been bled sufficiently, whether the debility which attended the loss of blood, did not forbid the further use of the lancet. Whether purging might not now be substituted for the lancet. At this time there was extreme pain and soreness of the abdomen, flushing, pulse small, very frequent, but tense. It was answered in relation to these queries, that it was not uncommon for patients at a first, second, or even a third or fourth bleeding, to sink under the operation, and upon further repetition they would come to bear the operation, not only without much prostration, but, by the relief from

pain consequent to the bleeding, they would become sensible of greater strength; that it was probable, that this would be found to be the case at present. Ten or twelve ounces of blood were drawn without the debility occurring, which had attended previously—the patient was much relieved; and afterwards required five or six bleedings as the pain and tension of the pulse indicated the necessity for repetition. She was once leeches. After we had withdrawn from the case, supposing the patient to be in a state of convalescence, there was a sudden return of the pain, and some febrile excitement; the lady though much prostrated, was bled to ten or twelve ounces, which, like a charm, relieved the pain and fever, and her convalescence, which now took place, soon terminated in health.

We do not by any means wish to be understood to say, that the patient of doctor Coxe was treated unskillfully. Agreeably to the new-fangled practice of those, who borrowing principle surreptitiously from Rush, substitute a new method of abstracting blood, the treatment was prompt and vigorous; we raise this imputation against the Broussaian school, more especially its founder. Admitting this *blood sucking* practice to be the better one, the case before us has been skilfully treated, and does credit to the gentlemen concerned; but as we object to this method of treating inflammatory affections, we shall offer a few of our objections, feeling no other bias than that of honestly doing our duty.

We are well convinced that no man in the profession is better acquainted with the herculean powers of bloodletting by the lancet, than doctor Dewees. But this so far from reconciling us to the substitution of hundreds of leeches, for a few venesections, on the contrary, serves to show that so strong is fashion in medicine, as in other matters, that the most skilful and wary, will sometimes follow fashions, merely for fashions' sake. And, indeed, we are forcibly reminded here of the fact, that the practice of medicine has always been a matter of fashion, and governs thus with resistless sway.

Every one is aware of the fact of the tenacity with which medical men of most ages, have adhered to some captivating follower, as, an Hippocrates, a Celsus, Galen, Stahl, Hoffman, Boerhaave, Cullen, Brown, Pinel, &c; still in spite of the most manful resistance of many, the fashion changed; and each chieftain in his turn, was lost in the resistless current of time. We see this daily verified in other departments of human concerns—while the various costumes, and manners of different ages, undergo changes, as undeviating as time itself, there are to

be seen in all ages, men who less open to conviction, or perhaps more obstinate than the pliable multitude, will wear a cocked hat, while the fashion calls for the common hat; or while the multitude scramble through the world with pantaloons and round toed shoes, a few less pliable citizens will do honour to their forefathers, by wearing breeches and sharp pointed shoes.

We are ready to admit that an unyielding obstinacy, which will subject us to the risk of persisting in old things, when new can be had that are better, is a pernicious trait in the human character, in all situations; but more especially so in medicine. But if we are to be persuaded out of established fashions, let us clearly collate, and count the cost, before we risk giving up what we know to be valuable, for things taken on trial, or experiment. And to come immediately home with our question, what man of extensive experience in the treatment of common inflammatory diseases has been able to satisfy his own mind, that leeches will do better than the lancet? If there is one truth in medicine, it is, that inflammation can be subdued by the judicious use of the lancet. We believe that those most vociferous for the *local bleeding*, are those least acquainted with the real nature and advantage of general bleeding; and in this remark, we include the chieftain of the *local practice* M. Broussais. Did this innovator try the lancet agreeably to the dictates of Rush, and find it fail him, or did he not rather adopt the idea of "*unequal excitement*," under another name, and run our practice into riot, by substituting less efficient means for accomplishing the same purposes?

A few words more and we are done. Here is a case of inflammatory disease of the eyes, throat, peritoneum, &c. in succession—diseases, as obviously under the control of the lancet, as is an intermittent submissive to the bark, treated with dozens, and hundreds of leeches (to the number of about four hundred and fifty in the case present.) What a waste of time, unnecessary *exposure of the body*, and expenditure of money, to get a lady bled a few times.

We do not wish to be understood to object to leeches in cases of protracted inflammation, after suitable general depletion; but we have no hesitation in saying, to the profession, to be found in the valley, the low lands, the high lands, the mountain lands, or in the villages of our extensive country, that if they occasionally feel the want of leeches, in frail habits, or protracted cases, their patients nevertheless, on the average, will be better treated than where leeches are so abundant, that you may see men, and women, covered with them over half the body—from

all which nothing is obtained but a copious bleeding. If one were to measure the potency of practice in cities by the leeching; and suffer themselves to believe, that, this is the only way that inflammation is to be relieved in such cases, as the one we have just noticed; we might suppose, that practitioners out of *leeching cities* must loose most of their patients, since every one knows the danger of neglected inflammation, and that leeches cannot be had everywhere. But, fortunately, it is equally well known, that disease, though it may be local, is connected closely with the general system; and that by using the lancet judiciously we may leave leeching to fill the place of a weak auxiliary to this non "protean" instrument.

## REVIEWS.

ART. I. *The Institutes and Practice of Surgery; being the outlines of a course of lectures.* By WM. GIBSON, M. D. *Professor of Surgery in the University of Pennsylvania, Surgeon and clinical lecturer to the Alms house Infirmary, &c.*

WE believe it to be a common understanding, that the preface in books is mostly the last part written—this custom gives the author the advantage of speaking with greater certainty and precision of his intentions generally, and of any peculiarities which he may have suggested, on a common subject.

Upon looking into the work before us, we notice, in relation to the author's intentions, the subjoined *declaration*; and in relation to peculiarities, the author claims, as being in great measure his own, *magnified drawings*, and *imitations* of diseases on the dead body. These peculiarities not making any part of the work, we shall pass them over; and proceed to notice the declaration, as to the author's intentions. "I do not presume to offer these outlines to the profession. They are designed *exclusively* for those many young friends in whose interest I take the liveliest concern."

Would our author persuade us that there are two kinds of surgery—one for the student and another for the practitioner? We would say, that, if the work be well written, and what it professes to be, an outline both of the institutes and practice of surgery, it must be equally valuable to both parties, since, to all, it can only be a book of reference. The student finds his illustrations in the lectures of the professor, and the practitioner must look for his, in works treating more fully on the subject.

The profession, however, hearing of professor Gibson's surgery, will read it, and they will compare it with other works of merit—the formal dedication of the work, to Mr. Charles Bell, will stamp it with a national character. Our trans-Atlantic brethren will look upon it as presenting a picture of the present state of surgery in the United States. The work coming as it does from the Philadelphia school, to claim the notice of Mr. Bell in England, will be viewed in Europe, as a master piece of surgery, in America.

With this view of the subject before us, we proceed to a candid review of the book. The high station of the author, it will be admitted, should not exempt his production from investiga-

tion—on the contrary, where much is expected, in literary matters, that expectation should be satisfied. It is absolutely essential, that coin coming from the mint should stand the assay. We purpose impartially to try the specific gravity of the coin before us, and must leave our readers to judge whether we justly apply the *balance*.

The work commences very properly with the important subject of inflammation. This subject having been very briefly disposed of, we have deemed it proper to quote the whole of the general observations, relating to it.

"We are told, that "the words inflammation, phlegmon, and phlogosis, have been indiscriminately used to denote that disease, in which there is unusual redness, heat, swelling, and pain."

Does our author give us a lucid definition of inflammation? We leave the reader to compare it with others, and draw his own conclusions. It may not be amiss to remark, however, that professor Gibson means local inflammation, since he tells us, that, "every inflammation is not attended with constitutional symptoms."

Presuming that the author applies his definition to local inflammation, we have thought proper to offer the following as an amendment. That condition of a part, or organ of the body, which is known by the word inflammation, is characterized by a fixed or local pain or soreness, preternatural heat, increased secretion; mostly attended with lesion, redness, and swelling; and wherever considerable, by febrile action of the general system.

"By most writers, inflammation has been divided into acute, chronic, healthy and unhealthy; though not perhaps (perhaps not) with much propriety. Two distinct stages of the disease have also been pointed out. In the first stage there is coldness, languor, nausea, pain in the head, a small quick pulse, and a parched tongue. In the second stage the skin is hot, the pulse full, and hard, the thirst considerable, and the part affected becomes swelled and painful. Every inflammation however, is not accompanied by constitutional symptoms."

If our memory does not deceive us, few if any writers divide inflammation into *acute, chronic, healthy and unhealthy*. The careless manner in which these terms are thrown together, seems to us objectionable. No one can doubt the fact, that inflammation is sometimes acute, sometimes chronic. All will admit that inflammation is sometimes unhealthy, but we presume the most devoted admirer of Mr. Hunter, of the present day, means by the term healthy, nothing more than a comparative healthy condition. Be all this as it may, certain it is, that where there is preternatural heat, also redness, pain, and swelling, the part, so affected, is in a diseased state—nevertheless when we compare a case of adhesive inflammation of the most

favourable kind, with unfavourable cases of the phlegmonous, the former is comparatively healthy. Thus it appears, that of the four kinds of inflammation mentioned, three cannot be disputed, the other is conditionally true—these terms, after all, are applied to denote certain conditions belonging to inflammation, while most writers divide inflammation into kinds, according as certain phenomena shall more or less predominate, and hence we have the adhesive, suppurative, ulcerative, &c.

“*Two distinct stages have also been pointed out.*” It is not said whether correctly or not. Can any man *distinctly* perceive these two stages? are they apt to be so distinct, that we may know where the one ends, and the other begins? “In the first stage there is coldness, languor, nausea, pain in the head, a small quick pulse, and a parched tongue.” We understand our author to speak of such inflammations as may admit of resolution; and therefore local, and if we are correct in this belief, then we have none of the usual signs of inflammation in this first stage—none are mentioned. Nothing is better known than the fact, that most cases of inflammation, calling for resolution, are attended by constitutional symptoms, *as a consequence of the local affection*; and all the symptoms mentioned, by our author as constituting the first stage of inflammation, are constitutional.

“It is said that in the “second stage the skin is hot, the pulse full and hard, the thirst considerable, and the part affected becomes *swelled* and *painful*.” Here are two stages, and the first, according to our author, passes away before we have *swelling* and *pain*. Is there not also heat and redness, in the second stage, seeing they make no part of the first stage? We are told that, every “inflammation is not accompanied by constitutional symptoms”—and yet in the explanation of both stages of inflammation, which are said to exist, we have no local symptoms, excepting that the part becomes *swelled* and *painful*, in the second stage.

We consider this an important part of the subject of inflammation, and it is therefore highly important that it be well understood. Where constitutional symptoms supervene, they are liable to change from day to day, according to accidental circumstances, or as the case shall happen to be more or less skillfully treated. The patient may have morning and evening exacerbations—with these there may, or may not be chills, and these chills may supervene the first day, or after several days. There may be headach, or there may be none—there may be nausea, or there may be none; and so of all the constitutional symptoms which are said to constitute the two *distinct stages*.

In short, all that can be said with any certainty on this point, is, that, where constitutional symptoms supervene upon local inflammation, we shall have the usual symptoms of inflammatory fever. The fever is however occasionally modified by peculiar circumstances—thus in seasons of bilious diseases, we will sometimes have all the ordinary symptoms of such disease. This remark extends alike to remittent, intermittent, and typhus grades of fever. This is not only verified almost daily in our private practice, but our army practice presents the fact in a manner not to be doubted. We are not therefore to look for two *distinct stages*, to be made up of half a dozen febrile symptoms, but we must carefully bear in mind, that if local inflammation lead to fever, that fever may be simply inflammatory, or it may assume the form of any fever then prevailing—often attended with dysenteric symptoms, as well as the more usually acknowledged summer epidemics. This truth is of so much importance, that he who does not keep a vigilant eye upon it, will be liable to conduct his practice upon erroneous views.

“There are eight terminations of inflammation—resolution, adhesion, effusion, suppuration, ulceration, granulation, cicatrization, mortification. These terminations or series of stages are extremely interesting to the surgeon.”

That these several stages are attendant upon inflammation, in its wide range, there can be no doubt. But we see no possible advantage in classing together such a variety of conditions so very dissimilar. In resolution, cicatrization, and mortification, there is a complete termination to, or end of the disease. In suppuration, effusion, ulceration and granulation, we have only an intermediate stage, or condition of the part. A part after it has terminated in suppuration may terminate in mortification, granulation, or cicatrization. Neither suppuration, ulceration, or granulation, are terminations of inflammation, taken in the sense of cicatrization or mortification, which are absolutely terminations, in the ordinary acceptance of the term. Several of the terms, included in the list of terminations, are but stages which are characterized by particular phenomena, which phenomena are to be understood by the terms usually applied as suppuration, adhesion, &c. Effusion is sometimes considerably, and then like suppuration, &c. becomes a condition which marks a period in the case; in other cases, indeed almost invariably, it forms an essential part of the disease, throughout its whole course, and hence it is, that we have laid it down as one of the symptoms or phenomena, almost inseparable from inflammation.



We should not however, have considered this a matter worthy of notice, if we had not observed in the book before us, an omission of importance, as relates to the common understanding of terminations. No notice has been taken of *delitescence* or *indurations*. Boyer tells us, that "inflammation terminates in five ways, viz. by delitescence, by resolution, by suppuration, by induration, and by gangrene." He says "we give the name delitescence to a sudden termination of inflammation, without going through its different periods. For example—when a person burns himself with hot water, without however, the epidermis detaching itself; if we plunge the part thus injured into cold water, or acetate of lead dissolved in water, and leave it there for a certain time, we prevent the effect of the irritation, and give to the fluids an impulse different from that which it has occasioned, and thus render the disease abortive. It often happens when a gonorrhea has been suppressed by any cause, that the testicle becomes swelled and painful. In this case, if we apply speedily upon the tumour a discutient cataplasm, we repel the humours (that is the effusion) which are advancing to it, and arrest the inflammation; the running recommences, and the disease pursues its ordinary course. The cessation of the inflammation in these two cases, are genuine examples of delitescence."

We would say here, that it is by arresting the irritation, and the consequent influx of fluids, that we prevent the complete developement of the phenomena attending inflammation. According to this view of the subject, we do not remove the inflammation, but we prevent it—this cannot therefore be a case of cure by *resolution*. We *resolve* the irritation, prevent effusion, or lesion, and thus prevent the congregation of that full set of phenomena which constitute inflammation. On the contrary, when this congregation of signs is completed, we must of necessity remove the whole of them to effect a cure, and where this is effected without suppuration, ulceration, or gangrene, we cure by *resolution*.

We deem the above view of the subject highly important, since there are frequent opportunities afforded us, of relieving by delitescence, and, indeed, something of this sort attends almost every case of common inflammation. Thus a person having received a wound which necessarily leads to inflammation, the extent of that inflammation will depend much upon the treatment: as it shall happen to be more or less correct, the inflammation will be less or greater in extent, and force; although

we may not be able to prevent some degree of suppuration. We often, for instance, see a part deeply reddened, we apply a discutient, deplete, elevate the limb, &c.; in a few hours we find the extent of redness much diminished, yet, owing to bad habit of body, or to the injury in the central part being too considerable, suppuration progresses, but is lessened in its extent by proper treatment.

Inflammation sometimes terminates in *induration*, and we must consider the omission of this, as one of the results, or *terminations*, an important oversight, by professor Gibson. This termination sometimes takes place in cases of orchitis or inflammation of the testicle; also, in the skin, as in elephantiasis, in the female breast, and inflammation of internal organs, extending to most of the viscera. This suggests the importance of the early employment of measures for delitescence, or resolution, before the inflammation is formed in the one case, and before it suppurates, or becomes chronic in the other. A kindly suppuration, we are aware, will prevent this state of things, but we sometimes see an ill-conditioned, irregular, or sparse suppuration, attend advancing indurations.

"The heat of inflamed parts, is apparently very considerable; but it was satisfactorily ascertained by Mr. Hunter, that it never rises above the natural heat of the animal, or that at the source of the circulation. An increase of heat, both in healthy and inflamed parts, probably depends chiefly upon an increased velocity in the circulation of the blood. The heat generally continues so long as the part continues dry, and is speedily diminished upon the appearance of perspiration."

We are told that *there is an increase of heat both in healthy and inflamed parts*. It cannot be doubted but that when we hasten the circulation, by exercise, we increase the heat of the body; but will this remark apply to "parts" of the body? Why then this careless association of terms? In all local inflammation, there is partial excitement, whereas, in the healthy state, whether it be *parts*, or the whole body, there is equal excitement or action, that is, proportional equality of action, suited to the economy of each tissue and part.

We do not agree with our author in the opinion, that in inflammation the heat is chiefly owing to increased velocity—there must be wrong or morbid action. We have increase of heat in low fevers, without increase of circulation. Let us admit for the purpose of illustration, that increased circulation is the cause of the heat, attendant upon inflammation. Professor Gibson elsewhere tells us, that the pain is principally owing to the *surrounding swelling*; the swelling is then the cause of the pain, and the former arises from increased vascular action; the redness is obviously

owing to increased circulation—then it results that all the phenomena, seen in inflammation, depend upon increased vascular action. Why is the part reddened, because there is increased action? Why is there swelling, because there is increased action? Why is there pain, because there is “swelling?” Why is there preternatural heat, because there is increased action? This is seemingly all true, but does it explain any thing—the first link of the chain is left out, that is, the cause of the increased action, and here lies the rub. In a word, then, inflammation is known by certain phenomena, among these, we believe, (though we know that this has been doubted) that there is increased action, as a part of the process, but the disease is constituted by the congregation of certain phenomena, which we may, agreeably to the regular rules of philosophizing, ascribe to the influence of some hurtful agent, by which the healthy economy is disturbed, and morbid action substituted. We agree with Professor Gibson, that there is increased action, but before there can be increased action, there must be a foregoing cause to the increased action, and there is reason for believing that the nervous energies suffer first. And, if we not are mistaken, this circumstance has led Mr. Thompson into the error of supposing, that in some inflammations, there is increased action, in others, diminished action. The different results attending his observations, arise, we believe, from their being made at different periods of the disease, and it must be admitted, that the force or obstinacy of cases, does not depend precisely upon the amount of action. We often have low action in inflammation. Yet we believe, that with few, if any exceptions, there is a period, however short it may be, when there is increased action in all inflammations. In some cases this scarcely lasts a few hours, and, is indeed, sometimes either so transient or feeble, as not to contraindicate the employment of internal tonics, and internal and external stimulants.

We think too much stress is laid upon the influence which the occurrence of perspiration has in checking inflammation. If it were true that the preternatural heat is “speedily diminished, upon the appearance of perspiration,” it would follow, that we have only to produce perspiration to effect speedy resolution—this is, however, by no means the fact. Indeed, we think perspiration is seldom seen to have any very well marked influence, in arresting common inflammation. Still we are well aware, that it is generally a salutary condition of the part.

“In most inflammations, the *redness* is diffused among the surrounding parts, but in inflammations of a specific kind, it often stops with an abrupt

edge. The redness, in some instances, has a dark hue, in others a bright scarlet. An increased redness must always depend upon an inordinate determination of blood to the vessels of the part. The red capillaries are first enlarged, and the blood is thence oftentimes transmitted to the serous vessels. These changes have been happily illustrated by Mr. Hunter."

Is it true that the "redness is diffused among the surrounding parts?" Are we not to look for it in the inflamed part, and not *among the surrounding*? To our apprehension, the surgeon has to manage common inflammation, and erysipelas only, viewing the former in all its extent. In the former, we mostly find the redness so gradually shaded off, that we scarcely can fix its termination, while in erysipelatous inflammations, it usually terminates with a pretty abrupt edge. The darkest redness is often seen in old cases of inflammation, and even cicatrices sometimes are of a deep red.

"The swelling is for the most part confined to the cellular texture, and is commonly greatest where the inflammation commences. At first it is owing to an inordinate quantity of blood determined to the part, its continuance, however, must depend upon an effusion of serum, or upon exudation of coagulable lymph into the cellular texture."

Are we to understand here, that when the swelling has been occasioned by an increased flow of blood, that as the effusion of serum or lymph progresses, the blood retires? Now one of two things must happen, the blood must retire, as the lymph accumulates, or the swelling must be doubled in magnitude; and this change of agency must be gradual. We have, however, been led to hold a different opinion, we believe that most usually, one of the first changes attending increased action, is effusion, so that they, so to speak, go hand in hand, moving on together, and in cases of resolution retiring together; they both at the same time usually make a part of the disease. Sometimes it will happen that so far is it from being true, that, as increased action subsides, effusion serves to keep up the swelling, that the swelling takes place before the supplying vessels of the part are affected—thus a child receives a hard knock on the head, a considerable swelling almost instantly takes place—this may run into inflammation, or it may be dispersed by delitescence. Or we have a luxation, or contusion of the structures of a joint, followed almost immediately by considerable swelling; when, as yet, it cannot be said, that the part is inflamed; in both these instances, we have effusion, as the thing which produces the swelling. In such cases, we may often do much good by dispersing the effusion, before inflammation be fully established; for effusion is but a part of the derangement which constitutes inflammation.

"The pain is acute, or otherwise, (how otherwise) according to the texture of the part affected. Some organs in their natural state are comparatively insensible, but when inflamed, exquisitely sensible. In some inflammations, instead of pain, there is a pruritus or itching. In others the pain is pulsatile. Again, in particular species of inflammations, a burning sensation is produced. The pain in every instance, perhaps, depends upon the nerves of the part being compressed by the surrounding swelling."

The pain is acute, "or otherwise," textures suffer the acute, or otherwise pains, according to structure—what then? Some are insensible, comparatively, but more sensible when inflamed than others, we may presume from the use of the word exquisite—admit it, and what then? In *some inflammations* we have no pain, but *an itching*—this cannot escape the learner when he meets it. Without entering into particular detail on these points, it may be briefly stated, that it is the more dense structures that possess least sensibility in their healthy state, and become *super-sensitive* when inflamed; they are principally bone, aponeurosis, &c. and a pruritus is only to be seen on the skin, particularly on that lining passages into the body.

Allusion is made to *particular species of inflammation*; our author has not divided inflammation into species—if he had, it would still seem necessary in speaking of the inflammations which are attended with a burning sensation, to say what are the species. This burning may often be produced by the use of too stimulant applications—it often attends erysipelas, and is present at the beginning of gangrene.

It is said, that *pain, perhaps in every instance, depends upon the nerves of the part being compressed, by the surrounding swelling*. Does this remark accord with our daily experience? Is it not meant to speak rather of the part swelled, than of those *surrounding* it? Let us suppose that a part is burned, scalded, punctured, lacerated, &c. what gives rise to the acute pain which attends it? It will not be contended that the pain is occasioned here by pressure on the nerves of the part? Is it intended that this remark shall apply to inflammations from internal causes? No doubt violent pain sometimes proceeds from inflammation of aponeurotic structures, and in parts that are abundantly supplied with nervous fibres, owing to the difficulty with which these parts yield to the accumulation of blood, pus, or to the effusions of other fluids; even here, however, we are inclined to ascribe the pain rather to the violent distention of the parts, than to the compression of the nerves, by the surrounding swelling. We may remark further, on this point, that in some instances of inflammation, the pain abates as the swell-

ing advances; this is often seen in inflammatory affections of the jaws of young persons, and in phlegmasia dolens, we have seen the pain subside entirely, while the swelling remained undiminished—indeed, our daily observation presents cases of considerable swelling, without pain at all, at some period of their course, and sometimes during the whole course, as in cases of common edema.

“The causes of inflammation may act either chemically or mechanically. Among the former *cold* is supposed to exert a greater power than any other agent. Its first effect is to debilitate the extreme vessels, and to diminish the sensibility of the part to which it is applied. Cold may operate directly or indirectly. In the former case, the part may be irrecoverably destroyed, provided the temperature be sufficiently reduced; in the latter, various degrees of inflammation may arise. How the indirect application of cold is productive of inflammation, is a question which has never been satisfactorily solved. Cold, when combined with moisture, more readily excites inflammation than when deprived of it.”

We are at a loss to know why it is said, that *cold* exerts a greater power than any other *agent*, in the production of inflammation. Is heat a less powerful agent? Has cold a greater power than chemical caustic, in the production of inflammation? All these, and many other agents, readily excite inflammation.

Cold, says professor Gibson, may operate *directly* or *indirectly*; and when the *operation* is indirect, we may have *various degrees of inflammation*. We have endeavoured in vain to find out the meaning which is here attached to the words *direct* and *indirect*. We know of no way but one, that cold can act, and that is by the abstraction of heat, and just as the heat shall be reduced below a healthy standard, so will the effect be greater. Does the author mean that when a *part* is subjected to a very low temperature, we may have inflammation in the part so exposed, and that where the *whole body* is subjected to a reduced temperature, we may have local inflammation, as the consequence of general fever?

We think it probable, that when it is said, that cold has a *greater* influence, the meaning is, that it is more generally operative; be that as it may, this subject is too important to be dismissed with so very brief and imperfect an account of the influence, and *modus operandi* of cold upon the human body. We shall, therefore, offer a few remarks. In the first lines of doctor Cullen, speaking of the remote causes of inflammation, it is said, that cold may be the cause of such disease, when “in a certain degree not sufficient immediately to produce gangrene.” In the *materia medica* of the same author, we have this explanation—“Its operation upon the body is attended with this peculiar circumstance, that when applied in a moderate degree, and

with no long continuance, it always increases the heat of the part to which it is applied; and from the redness which it at the same time produces, it is pretty certain that both effects are produced by increasing the action of the blood vessels in the part. Its effects, as a stimulant, are upon no occasion more remarkable than when any substance is taken into the stomach, of such a temperature as to feel cold there; it commonly produces a sense of heat on the surface of the body, and a disposition to sweat, if at the same time the cold of the external air is, by covering, avoided." Are we to understand the *indirect application of cold* as being under the circumstances pointed out by doctor Cullen, in which cold produces a stimulant effect?—if so, it must still be said, that professor Gibson has left the subject in much obscurity.

We are told by professor Gibson, that cold acts as a chemical *cause* (agent) in producing inflammation. Can it ever chemically, have any other than a positive influence?—we think not, and, by way of illustration, shall offer a few remarks. Cold may operate upon our bodies in two ways—these are positive and relative. A part, from the living actions, cold will act upon an animal body as it does upon all others, but while the vital operations are in play, it can only have a relative influence. There being a heat generating apparatus within the animal machine, it will resist the injurious effects of a low temperature, as that apparatus shall happen to be more or less perfect in its operations. Under these circumstances, cold may, to be sure, operate as a chemical agent, but so far as there is any change of operation or action, in the part exposed, it is not occasioned by chemical operations within; and consequently, the influence of a reduced temperature operates no more as a chemical cause, than does a stroke with a billet of wood.

The most familiar example of the relative influence of cold, may be taken from the fact, related by travellers, that in travelling upon the sides of high mountains, while the ascending man suffers from the cold, and draws his cloke about him, the descending one throws off his as he descends into a warmer air, and nears the warmer atmosphere of the valley.

This is an important truth, since some persons will suffer from *cold*, that would in no degree injure others; we will briefly relate a curious case in point. We know a respectable shopkeeper who had a deformed and weak leg, the skin on the foot was so delicate as to require care to prevent abrasion in the summer from perspiration, &c. On a cold day, he remained in his store suffering a good deal from cold feet—the next day

he was convinced that the tender foot was frost-bitten, while the other had escaped. Considerable inflammation followed, but the case required stimulant dressings, at the time we saw it, a liniment of sweet oil and turpentine, with opiates, speedily restored the part.

We know not how the "application" of cold can be "indirect," and therefore cannot "solve" the question "satisfactorily," as to its *modus operandi*. Does our author mean here what doctor Cullen calls the stimulant effect of cold? Thus cold will redden a part when applied in a moderate degree, as we so often see in persons exposed: the nose, or cheeks redden, and inflammation may follow if the cold be too long continued: here some inscrutable proximate cause, or provocative to excitement, must exist within the part—the cold is nothing more than a remote cause. In such cases we cannot correctly speak of the *application* of the cold, as being *indirect*. The application is always the same, but it must be admitted, that there is sometimes a state of excitement, as the first visible effect of moderate degrees of cold. This however, is not an *indirect application*.

"Heat may also be said to produce inflammation by its chemical power, and is a frequent cause of the disease. Like cold it may act directly or indirectly. In the one case topical inflammation is generally the consequence; in the other various diseases of the constitution. Atmospheric air (indeed) noxious gases, acids, alkalies, blisters, rubefacients, animal poisons, contagious and specific diseases may likewise be enumerated among the chemical causes of inflammation.

We are told that *heat may be said to produce inflammation*. Can any one doubt that it frequently does produce inflammation? If we apply a heated body, to any part of the human body, we will certainly occasion inflammation; but how we may make a distinction into direct and indirect action we know not. "In the one case," that is, when the heat is said to "act directly," it will produce "local inflammation." Is there any other way in which heat may produce inflammation? Professor Gibson does not say there is, but he says that in the "indirect" mode of action, we may have, as a consequence, "various disorders of the constitution." What have *various diseases* to do here with heat, as a chemical cause of local inflammation, of which our author is treating? A person who had been exposed to too great a degree of heat might be thrown into fever, and that fever may be followed by local inflammation, as is the case sometimes in fevers from various other exciting causes, but if we have inflammation in a part from such fever, can we view



the heat as a "chemical cause" of the inflammation, or say that the heat "acts indirectly?" I trow not.

We do not recollect that any one before professor Gibson, has noticed the atmospheric air as a "chemical cause;" or any other cause of inflammation? We are aware that Cheselden, Monro, and others, ascribed much to the influence of atmospheric air upon wounds of cavities, &c. but that it was ever suspected of being a cause of inflammation, independent of a wounded surface, we are much inclined to doubt.

Not content with considering noxious gases, acids, alkalies, blisters, rubefacients, animal poisons, (and odd enough too,) as chemical causes; he tells us that contagious and specific diseases, are also *chemical causes* of inflammation. Will all of the usual exciting causes of inflammation, as blisters, rubefacients, animal poisons, &c. act on dead bodies; or can they only act chemically on the living? Caustic and the acids may perhaps act chemically, since they have equal influence on the living and the dead structures; but, is this the case with blisters, rubefacients, noxious gases, atmospheric air, or contagious diseases, all which are classed with the "chemical causes" of inflammation? It is not said whether these causes act *directly* or *indirectly*, but where they apply to local inflammation, it must be *directly*, agreeable to our author, seeing he says "in the one case," the *direct*, "topical inflammation is generally the consequence" of the exposure of any part of the body to a high temperature.

"The *mechanical* causes of inflammation are contusions, lacerations, punctures, fractures, luxations, long continued pressure, and innumerable other agents."

We think it somewhat strange to see *contusions*, *lacerations*, &c. put down as causes or agents, in the production of inflammation. We will suppose that a person has had some part of his body exposed to a heated piece of metal, and such injury has been done as will lead to inflammation. Here the heated metal is certainly the remote cause or agent, in the production of the disease, just as in cases of contusion, the contusing body is the agent of the evil which follows. Shall we say the contusion is the agent? In our apprehension, a contusion, or laceration, is a mere condition of the part, imposed by some hurtful agent. Surely neither a contusion or laceration, can be an agent, or mechanical cause of inflammation—it must in all cases be the impinging or hurtful body that causes both the contusion and inflammation.

We may be asked why does a contused part inflame?

Simply because the healthy economy of every part of the body depends upon a certain relative action, among the various tissues and molecules of which it is composed. The hurtful agent disturbing all these correlative operations, so that the whole concatenation is thrown out of their ordinary relations, then whatever it be, within the parts, which gives play to new and wrong action, holds an intermediate place between the agent or remote cause, and the completion of the inflammation which succeeds. The influence within, by which the disease is excited, we term the proximate cause—Professor Gibson however, decidedly objects to the employment of such a term.

It is perhaps still a matter of some uncertainty what it is that constitutes the condition or influence which we have just termed a proximate cause; but as we know that the nervous tissues hold the first place in the concatenation of living actions, which constitute aggregate life, it seems but reasonable to conclude, that the proximate cause of inflammatory action, is the lesion, or irritation of nerves.

“Every part of the body, with few exceptions, is liable to inflammation; but some parts are more prone to it than others. In general, it may be stated, that the greater the natural sensibility of the part, the more susceptible is it of the inflammatory process.” Every part, with few exceptions, being liable to inflammation, those exceptions would seem to show, that some parts are “more prone to it than others.”

We presume it is meant that *some parts*, as bone, cartilage, aponeurosis, &c. are comparatively indisposed to inflame, while it may be said of those parts that are more susceptible of inflammation, some are more so than others.

Our observation leads us to doubt the assertion, “that, the greater the natural sensibilities of a part, the more susceptible is it of the inflammatory process.” Mr. Hunter never said any thing more correct than that, the cellular structure is more prone to take on inflammation than any other structure in the body. The dura mater and the pleura readily take on inflammation, yet, we do not find peculiar sensitiveness in these structures.

“The serous membranes are particularly subject to inflammation. The danger in such cases, is often great, and the pain severe. In many instances adhesions form from the effusion of coagulable lymph, and the functions of particular organs are disturbed or destroyed; at other times, a salutary purpose is answered, as, without such agglutination, certain diseases could never be cured.”

We are here told that the serous membranes are particularly liable to inflammation, and that there is often severe pain, and great danger in such cases—adhesions sometimes take place

and destroy or disturb the *functions* of particular organs. The conclusion which seems to result from the positions laid down, we think, is this—we have adhesions from coagulable lymph, and the functions of some organs are disturbed or destroyed; at other times this destroying lymph answers a salutary purpose, by effecting the agglutination of divided parts—“without such agglutination certain diseases could never be cured.”

The only cases connected with inflammation of the serous membranes, which come properly under the notice of the surgeon, are those which arise from a wound of a serous membrane, or such as arise from some surgical disease—among these may be named affections of the bladder, urethra, &c. We do not expect or desire agglutination in these cases. Where then are we to look for a salutary purpose to be answered by agglutination? Principally, we believe, in wounds of the intestines. “Certain diseases!” Some men have a happy knack of getting rid of trouble, and save time; *certain diseases* may be read quite emphatically, by a good reader, but who shall expound the riddle here presented?

We ask the reader's acceptance of the following amendment of the foregoing paragraph. The serous membranes readily take on inflammation, the pain is usually acute, and sometimes severe—one of the most prominent phenomena attending, is the effusion of a plastic lymph, which sometimes answers a valuable purpose, by effecting adhesion of divided parts—nevertheless, this form of inflammation is sometimes attended with considerable danger. Inconvenience may arise from adhesions of the pleura costalis, to the pleura pulmonalis; but, in wounds of the intestines, we see this lymph producing the most happy effects, by the speedy agglutination of parts that have been divided—these membranes are sometimes affected by suppuration.

“The *mucous* membranes also take on inflammation very readily; but the effects are very different from those of the adhesive inflammation. In general, the fluids secreted by mucous membranes, are changed in colour and consistence, according to the degree of inflammation existing in the part.”

What has the word “also” reference to in the above paragraph? We understand it as applying to inflammation of serous membranes—and as our author says that inflammation of mucous membranes differs from the *adhesive*, it follows that he views inflammation of the serous membranes as being always of the adhesive kind. Our daily observation, however, tells us, that these membranes may take on suppurative inflammation; and although it generally, nearly resembles that state of inflammation,

by which incised wound are speedily healed, yet it is far from being so simple; whether this greater severity of membranous inflammation arise from its extension over a larger surface, or whether it is not rather owing to the greater importance of the internal membranes, in the living economy; certain it is, it can never have a salutary influence except in wounds of the hollow viscera; and, therefore, it is wrong to call inflammation of the serous membranes, adhesive inflammation, because by common consent, we mean by adhesive inflammation, that most simple disease which attends the simple division of parts, and which secures a speedy reunion of them.

In inflammation of the mucous membranes, the *colour* and *consistence* of the fluids which they secrete are changed. What are these *changes*, and how do they stand related to the "degree of inflammation existing in the part?" Our author has not deemed this explanation necessary.

We know that mucous membranes when inflamed, give out muco purulent, purulent, bloody or serous discharges, &c. but it is not true that there is any measurable force, or grade of inflammation, which affords, or is attended by any particular kind of secretion. We know there are those who tell us there is; but under our own observation, we have frequently seen the several kinds of fluids, attending very slight, and very severe inflammation; and so of all intermediate grades. The pain is usually less severe than in inflammation of the serous membranes; but sometimes the pain attending the latter, is not only agonizing, but attended with extreme danger, as in inflammation of the inner coat of the stomach or intestines; but after all, the surgeon has but little to do with inflammation of the mucomembranous kind, since, in wounds of the stomach, or intestines, the internal coats do not seem in an especial manner to suffer; nor does this circumstance materially modify the treatment. We have been told, that inflammation of the mucous membranes is attended with very different effects, from that of the serous membranes—the effects of either has not been shown, how shall the reader get at them?

"The cellular membrane, especially the skin, is very susceptible of inflammation, which may be of the adhesive or suppurative kind."

We have already noticed the familiar fact, which was well known to Mr. J. Hunter, that cellular membrane is especially liable to inflammation; but why the skin has been confounded with this structure, we cannot imagine. *The cellular membrane, especially the skin*, sounds wondrously strange. We should bear in mind, that the subcutaneous cellular structure is liable to ex-

tensive sloughing inflammation, as well in erysipelas, as in common phlegmonous inflammation. The reader may recollect an interesting case of the former, in Mr. J. Bell's surgery, in the person of one M'Gillivray; and many cases are reported in some of our journals of the latter.

It is well known that the skin is very frequently affected by inflammation. This is owing in part to its proneness to such disease, growing out of its abundant supply of nervous fibres; and in part to its exposure to more injuries than internal parts.

"Inflammation is not easily induced in the synovial and fibrous membranes; when once established, however, the pain is often excessively severe, and the consequences very serious."

We do not like the phraseology here used.—To say that inflammation is not easily *induced*, would seem to import, that the parts spoken of will bear injuries with comparative impunity at least. These structures, owing to their deeper location, are less liable to injury than the skin, and cellular membrane, which more readily take on inflammation. The circumstance of the synovial and fibrous membranes having less nervous fibres, doubtless, accounts in great degree for their inaptness to inflame; but if we actually injure their integrity, in any considerable degree, they will most certainly inflame—so that there is no difficulty in *inducing* inflammation, by doing violence; sometimes they are *induced* to inflame, from internal irritations. Their economy is, however, such, that causes which might lead to inflammation in some other parts, may not *induce* it in these—after all, these membranes do not differ so much, because it is hard to *induce* inflammation in them, for, this is easily enough done, but, simply, because their organization renders them less liable than the skin, &c. to run into disease, from slight causes.

If the reader will turn to professor Gibson's work, he will perceive, that he has there presented fearful apprehensions about exciting inflammation, from wounding the synovial membranes with a knife. Why are we told, that it is not easy to *induce* inflammation in those membranes, when he tells in his chapter on affections of the knee, of the extreme danger of operating for the removal of cartilaginous bodies from the knee joint, as practised, and recommended by Mr. Abernethy, and others.

"The bones are subject to inflammation, and very tedious diseases frequently result; but cartilage, owing to its supposed want of vascularity, can hardly be said to suffer from inflammatory action."

We are told that the bones are subject to inflammation, and very tedious diseases frequently result—this may be admitted,

but should our author have left this subject with this imperfect account of ossific inflammation? Our daily experience shows that the bones are not comparatively much disposed to inflammation, but when it does take place, it is almost always intractable, where it arises from internal diseases. But we are equally aware, that bones, when wounded, heal by a process so nearly resembling the adhesive inflammation, that we, without hesitation, place it in that *class*. We frequently see transverse fractures in children, heal in a few days—and even in those that are much older, simple fractures will mostly heal in the kindest manner, and in a short period. It follows that nature has not left the bony structures without the restorative powers necessary for their relief from disease, indeed, she has provided an economy not only well suited to this end, but such as may well excite our highest admiration.

“Cartilage, owing to its *supposed* (not real) want of vascularity, can *hardly be said* to suffer from inflammation.” Is there any reason to doubt on this point? Do we not well know that there is a sparse vascular supply in cartilage? What is meant by “can hardly be said?” Cartilage is, or is not, liable, and there is no difficulty in saying, that although comparatively rare, they are sometimes involved in those terrible disorganizing inflammations, which may be seen in the joints.

“The arteries, veins, and absorbents, are all, more or less, exposed to inflammation. The former, (the two first, or the former) are capable of resisting the process to a great degree, while the latter (last) readily yield, and may give rise to various diseases of an alarming nature.”

Our author speaks of three articles under the terms former, and latter, and uses the plural in both cases—it is therefore impossible to say in which class he places the veins, or middle article. Our reflections on the subject, would lead us to believe, that he included the veins and lymphatics, in the term the *latter*; but there is obviously so much dissimilarity in inflammation of these structures, as to render such arrangement objectionable. Inflammation of the lymphatics, is seen to lead to various kinds of effusion, and swelling; and also, sometimes to severe pain, as we see in phlegmasia dolens, &c. while, inflammation of the veins seldom deranges the system, or a limb, in any other way than by the disease extending along the inner coat, to the central organ of the circulation; and thus leading to severe or fatal consequences. The interesting experiments and observations of Mr. Travers, on inflammation of the veins, led him to conclude that the veins are not so ready to take on inflammation as has been generally supposed, but, that when it does occur, it is

highly dangerous—indeed, he has led us to believe, that it is far more dangerous than lymphatic inflammation.

Having followed our author through this chapter on his general principles on inflammation, in which he, somewhat strangely, we think, includes his remarks upon *resolution*, we are prepared to examine the treatment for bringing about that termination.

“In every inflammation, the first object of the surgeon should be to procure resolution, and this is often accomplished by removing the exciting causes of the diseases.”

What is the inexperienced reader to think when he opens this leaf, and reads, “every inflammation,” and that too where no clear distinction has been made, between general principle, and the process of resolution. The surgeon should attempt *resolution* in *every inflammation*. His daily observation will however, convince him, that this will not do—so far from it, that he will very frequently meet cases in which it is very difficult to decide, whether he should apply discutients, or suppuratives. And there are cases in which we may attempt resolution in some individuals, under circumstances in which it would be improper or dangerous in others. In scrofulous subjects we do not so readily resort to discutients, neither will all delicate females, or asthmatic, bear such practice—with such, this treatment must be used with circumspection.

“Vital parts suffer more readily than others, from depression being induced.” “But all vital organs are not equally liable to suffer.” It will be admitted, that this is a loose way of writing, and the reader would readily inquire which are the parts that most readily suffer; and those that are less liable to suffer? The danger from wounds depends in part, upon organic destruction, and, in part, upon the inflammation which they will undergo, when wounded. Thus a wound of the thorax, by opening a large blood vessel, or wounding the lungs extensively, cutting the thoracic duct, or the main nerves, as the premo-gastric, or phrenic, will prove fatal, from organic destruction; while wounds though considerable, apart from this consideration, will not create so much danger from inflammation, as a wound of most of the abdominal membranes, or viscera; but, while the abdominal viscera, &c. readily run into dangerous inflammation, when once got up, most of these viscera do not so often suffer from organic destruction as do wounds of the thoracic viscera.

“A good general rule to observe in all inflammations of the vital organs, is to repeat bloodletting frequently, and to draw a small portion at a time. In this way depression will be avoided.”

We admit that there are many cases in which this rule will be proper, but in many, perhaps, a majority, more depends upon the time at which we bleed, than upon any particular quantity. When a person is depressed by a wound of some vital part, the depression will depend in some degree upon the particular economy of the part, and in part on the mental alarm—in both respects, the depression is mostly immediate, and it will often be necessary, before resorting to bleeding, to give a little cool wine, or brandy and water; and more especially, a little laudanum, to calm the mind; and we must quiet the circulation, by confining the patient to a horizontal position. So soon as the energies are a little restored we draw blood, and are regulated as to quantity by the effects produced; mostly our patients will become faint, and much prostrated, by the loss of a small quantity, at a first, second, or perhaps third bleeding; but, if the constitution of the patient, and circumstances of the case are such as to lead to violent inflammation, we will now generally find that further repetition of small bleedings is, almost always, to say the most, useless. So that instead of laying it down as a general rule, that we must cure inflammation, succeeding wounds of the vital parts, by “bleeding frequently in small quantity; we would prefer, as a rule of practice, that where the prostration, or depression is great, we test the condition, and resources of the system, by taking small quantities of blood—in doing this, we may expect frequently to unlock, (so to speak) the circulating apparatus, and thus give rise to very considerable reaction; and this often at a first, or second bleeding. If we were therefore as a general rule, to instruct our young friends in consultation to follow the rule of frequent small bleeding, without the important proviso which we have pointed out, we should often lose our patients, since in many cases of wounds of vital organs, nothing but the most copious detraction of blood will save life. One of the most interesting cases, illustrating this opinion, is recorded by doctor Dorsey, in doctor Coxe’s Museum, of a wound of the thorax, in which the standard of a wagon body penetrated the thorax.

We are told that the warm bath in *particular cases*, (what cases) will be found *extremely useful*—and that *strict attention* must be paid to the *degree of temperature*. Here are particular cases, requiring particular temperatures, admirable! Really, one can hardly be serious upon seeing the want of reflection manifested, in thus making sentences without meaning or purpose.



"In certain cases (what cases?) opium may be advantageously employed, especially after the full effect of evacuations has been obtained."

We have been led to believe, that when we have used evacuations with sufficient freedom, opium will seldom be required. To this, like all other points in medicine, there may be exceptions; these may grow out of great irritability of habit, protracted pain, great exhaustion, &c.—but generally, after free evacuations, we shall have a resolution of the inflammation. We are told to give opium with caution, even after free evacuation—it may no doubt sometimes be unnecessary, but except there be some idiosyncrasy of habit, opium can seldom do any harm. Caution may, indeed, be necessary in using opium in inflammation before depletion, not after "the full effect of evacuations," as a rule of practice.

Inflammation being always preceded by irritation, opium may often be given, not only without any squeamish caution, but with the fullest assurance of its doing much good. It, by relieving irritation, prevents inflammation, or lessens its intensity. In all cases of wounds, attended with serious consequences, opium should be given with some freedom, provided we are called before reaction has taken place. In all severe surgical operations, and we think especially those upon the eye, we not only save the patient from pain, but often obviate inflammation, which would arise, if not thus prevented.

Professor Gibson pays a just respect to doctors Kuhn and Physick, on the subject of low diet in the treatment of inflammations; but it is to the latter, more especially, that the public are indebted, since he has given publicity, in various ways, to his opinions; while the former has left little or nothing behind, to remind us of his experience. Nor should we forget, that doctor Dorsey has done much to disseminate this important information, among the medical world, by the publication of his *Elements*. We could cite some very interesting cases of severe wounds, in which, governed by the practical advice of that work, and the principles of doctor Rush, we have carried our patients through dangers which could not have been obviated without this important knowledge. We are inclined to believe, however, that doctor Physick's application of this practice, so far as peculiar to him, is most important in chronic inflammation—here it is, more especially, that Physick's light shines in its brightest lustre.

"Among the local remedies for inflammation, topical bloodletting holds

the first rank. It may be performed by scarification, cupping, or leeches. The first is employed only in certain cases, (what cases?) the second is, generally, applied to parts loose and yielding, and not very sensitive, (where shall we look for these parts?) We know, I think, that some part of the skin is meant—where is it not very sensitive? “The third (that is the leeches) is adapted to almost every external inflammation, and often proves of immense value.”

No one will doubt the value of the proper application of leeches, but he who trusts to them, while the general system is unreduced, in inflammatory affections, will be disappointed.

It is said that the number of leeches must be proportioned to their size, to the quantity of blood to be drawn, and to the part affected. Admirable! We suppose, to be sure, this is pretty much a matter of common sense business, and to be learnt at the bed side. But, we may suppose that the tyro in looking into professor Gibson's book in a hurry, would have his patience tried by reading, number and size your leeches, see how much blood they will draw, and then proportion them to the case, that is to the parts affected. Or in other words you must do *so* and *so*, and *such* will be the effect. Our experience on this subject (local inflammation) leads us to believe, that the most common error, or defect in the employment of leeches is, that of using them too sparingly, both as relates to the application at all, and to their being used insufficiently, as to number. Still, in debilitated habits, we may sometimes run into the opposite extreme, and the parts bitten may bleed after the leeches are removed, which requires attention. We have also seen serious mistakes in trusting to leeches, where general depletion was indicated, and every experienced practitioner, we think, must have observed the fact, that cases are often met with in which we apply leeches with propriety to-day, and yet, perhaps, to-morrow, owing to some imprudence, in diet, to your patients' catching cold, &c. a new train of inflammatory symptoms are roused up, and if you do not again have recourse to general bleeding, your patient may suffer. We admonish the young practitioner never to lose sight of this important truth.

“Blisters are efficacious in most inflammatory diseases, (what inflammatory diseases are here meant?) They should sometimes be applied over the part, and sometimes in its vicinity.”

We presume our author does not mean here *alternately*, yet such would seem to be the import of his language. He should have told his readers what are the *sometimes* requiring the direct application of blisters, and what the *sometimes* requiring them in the *vicinity*?

We are aware that many of the best authorities recommend the application of blisters in local inflammations, but our own

experience is decidedly adverse to their too early application. It is not easy to explain how so powerful a stimulation upon the skin can resolve inflammation, except it be upon the principle of counter irritation. If we have not been mistaken in our observations, blisters should never be employed in local inflammation till we have employed, both general and local depletion. In protracted inflammation, by apparently exciting a new action they exert a very salutary influence. In inflammation of the head, we should perhaps always apply them to the scalp; sometimes they are very beneficial, applied over the eye-lids, in inflammation of the eye. But we need not here extend our observations too minutely. We are willing to admit, that our author fills up some of the important details of practice, in some other parts of his work, which he omits in his general principles; but we leave the reader to judge, whether we have not justly pointed out an inexcusable obscurity of expression, alike unsatisfactory to the inexperienced reader, and inexcusable, as coming from a teacher in the science. The more so, since many of these meagre explanations are thrown into the place which might be occupied by books more intelligible, and sufficiently easily come at.

Speaking of cold as a remedy for inflammation, we are told that "strange as it may appear, in certain constitutions, and in inflammation of particular parts, cold applications do mischief." *Certain constitutions and particular parts.* No man can object to such truths as these, but if any man, not already wise, can be made wise by rounding off periods in this way, where we have all verbiage, and no instruction, he can see farther into a mill stone than we can. One is forcibly reminded here of the faint light of the common ignis fatuus—there seems to be a little light not far off, but if you endeavour to search it out, it fleeth like a shadow, and no one may possess it.

In his remarks upon rest and position as a remedy in the treatment of inflammation, our author tells us, that "while an inflamed or injured part, is kept still, the restorative process goes on without interruption." What need then of any other remedy? When the part is in motion, reproduction (restoration we presume) takes place very slowly. This no doubt, is all very true, except that in the former case, we must employ the usual remedies in addition to rest, to secure the advancement of the *restorative process, without interruption.*

Pus, says our author, has a strong tendency to putrefaction, especially when mixed with extraneous matter, (what sort of matter.) So far as our memory serves us, other writers say

that pus is indisposed to putrefaction, and this accords with our own observations, with a few exceptions.

"Unhealthy pus has received different appellations, expressive of the particular changes it has undergone. Ichor is a thin and exceedingly acrid discharge. Sanies is a very fetid ichor mixed with the red globules of the blood. Sordes is of a leaden colour, very offensive, thick, and apparently coagulated."

Pus, it is well known, is liable to various admixtures, but it is inexcusable to call ichor, sanies, sordes, &c. bad kinds of pus. Pus, like all other secreted fluids, has its own peculiar properties, and, when found mixed with other fluids, it is unphilosophical to call it bad pus. To show that the language of our author is careless and incorrect, we need only call the attention of the reader to the circumstance, that after speaking of ichor as bad pus, &c. he says that "sanies is a thin, and exceedingly acrid *discharge*, mixed with the red globules of the blood." The words ichor, sanies, &c. are said to be applied to pus when it has *undergone changes*, &c. These fluids are not altered pus, but secretions, *sui generis*, as much as pus itself."

Speaking of the formation of pus professor Gibson, says, "some supposing it to be the result of a putrefactive process, others that it proceeds from the dissolution of the inflamed part; and others, again, that it is produced by a secreting action. The last opinion *seems to be most probable*."

Is the reader left to draw his own conclusions as to which of these opinions is the most probable? Does our author entertain any doubt on this subject? He says, Mr. Hunter has furnished many strong arguments in favour of pus being a secreted fluid. Need we say, that there is nothing connected with pathology more clear than the truth, that pus is a fluid *sui generis*, and the product of a regular secretory action.

"Hectic fever may accompany any inflammation, but is commonly met with during the suppurative stage."

*May accompany any inflammation*—is this true? If it may accompany any inflammation, then it may accompany every inflammation; no one, however, ever dreams of hectic in common cases of local inflammation.

Our author closes this article with a very brief summary of the treatment usually employed in cases of suppurative inflammation. Most readers, if we mistake not, will close the book after reading this, just as wise as they were before. We shall therefore close our remarks, by referring the reader to Samuel Cooper's first lines, where he will find an account of the treatment of inflammation far more satisfactory.

We are very well pleased with the following remarks, with one exception, which we shall presently notice.

"It has been well noticed by Mr. Hunter, that whenever any solid part of our bodies undergoes a diminution, or is broken in upon in consequence of any disease, it is the absorbing system which does it. The term *ulcerative absorption*, was therefore invented by that great pathologist, to express that morbid process by which the continuity of the different textures of the body is destroyed. By the ancients it was termed *erosion*."

What are we to make here of the notion of a "morbid process" being attributed to the "absorbents," by which they destroy textures. We have here the living absorbents performing the work of death of the part, by a living operation. Our idea is, that when it happens that from morbid or wrong action in a part, some of the structures are deprived of their vitality, the absorbing apparatus, by a living action, takes up parts which have become recrementitious; but, this to our apprehension, is a very different thing from believing that the absorbents, remove parts by a morbid process called the *ulcerative process*. We should like to see how a distinction could be made between the morbid process of professor Gibson, and the *erosion* of the ancients.

"When an inflamed part, instead of terminating by adhesion, suppuration, or by some of the other modes formerly pointed out, loses its sensibility, heat and colour, its vitality is extinguished, and mortification ensues."

The *vitality* first extinguished, and then comes the mortification! This strange mode of expression, is made more wondrously strange, by the saying of professor Gibson, that he speaks of gangrene and sphacelus as one, under the term mortification. It follows then that when a part is in a state of gangrene, its vitality is extinguished, and mortification supervenes, on the part dead from gangrene. Nothing can be more important in our estimation than distinguishing the state of gangrene from sphacelus, since we may often arrest the former state of disease by the careful application of a blister, and thus save a part, or perhaps a whole limb, by preventing the extension of the gangrene, which is so certainly followed by the death of the part, if we do not instantanely, as it were, arrest the deadly tendencies.

Speaking of the constitutional symptoms attending mortification, our author says—"the pulse is quick and tremulous, and of the typhoid character." What is meant here by the typhoid character? Surely he does not mean to say that in local inflammation, threatened with mortification, there is, in all cases, and under all circumstances, typhoid action. Who has not seen inflammation assuming a gangrenous action, while the system was running through a course of excessive excitement, which called

for the lancet, and other depletory measures. I readily acknowledge, that his notion is generally correct, but why these sweeping assertions, without the necessary exceptions, or qualifications?

In the treatment of mortification speaking of the bark, it is said, that "in particular cases I have found it useful, and in others useless, if not injurious." This will be the case in the use of all potent medicines, unless they are skilfully administered. If a practitioner proceeds upon the belief that all cases of gangrene are accompanied by a *typhoid pulse*, he will be sure to do mischief with the bark. To our apprehension, bark is no less useful in mortification than in any state of disease for which it is given. No one will dispute the fact that it may be given to the great *injury* of ague patients, and even to their destruction. If the bark or kinine be given in the state of reduced action in gangrene or mortification, it will seldom fail to answer our purposes, so that the modern advantage in using the bark in mortification, is nothing more than suiting the remedy to the state of the system, not using it as the earlier moderns, as a specific without regard to the condition present. We leave professor Gibson to point out the *particular cases*, where the bark did well, and the other *particular cases*, where it did harm.

We are fearful of having exhausted the patience of the reader in passing thus far through the outlines of the institutes and practice of surgery. We would have him recollect, that this is a subject of the highest importance, and therefore entitled to critical notice. We claim the merit of having done our duty honestly, and shall willingly abide the decision of all impartial readers. We however ask indulgence of those who may differ in opinion with us, till we have extended our cogitations upon the remainder of the work. We are inclined to think, that we have noticed most of the work which might be considered as belonging to the Institutes. In our examination of the practical part we anticipate at least a more favourable opinion, if we do not find room for commendation. Doubtless, the practical is the better part of the work, but of all this, more hereafter.

**ART. II.** *An Essay on the diseases of the internal Ear.* By J. A. SAISSY, M. D. Member of the Royal Academy of Sciences, Literature and the Arts at Lyons, Fellow of the Agricultural and Medical Society of the same city; of the Academy of Turin, Rouen, and Dijon, and of the Medical Societies of Bordeaux, Orleans, Marseilles, &c. Honoured with a premium by the Medical Society of Bordeaux, and since enlarged by the Author.

*Translated from the French.* By NATHAN R. SMITH, M. D., Professor of Surgery in the University of Maryland, with a Supplement on Diseases of the external Ear. By the Translator.

**THE** more experienced part of the profession must be sensible of the paucity of information on the subject of diseases of the organs of hearing. This is to be attributed principally, we think, to the inherent difficulty attending the study of aberrations from health, growing out of the complexity of the anatomy, and to the difficulty of associating precisely, each separate part of the mechanism with the sentient principle through which impressions are made on the sensorium. It will, therefore, follow that whatever contributes materially to the illustration or improvement of this subject must be entitled to commendation.

We have thought proper, before entering into an examination of the particulars of the the work of doctor Saissy, to express our opinion of its merits in the aggregate. We are pleased to say, that much information will be found embodied in the work; but, if we except some improvement in relation to the injection of the Eustachian tube, we must regard him in the light of a mere compiler. It must be admitted, we think, that his practice is almost uniformly feeble, sometimes erroneous, and often much inferior to that of the author's from whom he quotes his facts and principles.

It is a truth, that works upon surgery do not contain such information, on diseases of the ear, as the importance of the subject merits, still it cannot be denied, that much information is to be obtained from works in the hands of almost every physician. We are of the opinion, that a manual on diseases of the ear is not so much a desideratum, as a complete and extensive work, embracing all the subjects connected with the mechanism, malformation, sense of hearing, derangements of the

mechanism, sense of hearing, and the treatment of the diseases of the ear.

We are not advocates, in the present state of our profession, in this country, for the study of diseases in different branches, and allotting to each branch of the profession the management of the diseases of one organ as the eye, the ear, &c. Except in a few of our larger cities such a distribution of the parts of our sciences could not be made advantageously, owing to a too sparse population. Where the population is sufficiently condensed, men will become more intimately acquainted with each branch, by devoting their attention exclusively to one.—As regards the operative surgery connected with the eye or the ear, this is incontrovertibly true.

It may be said without disparagement, that general practitioners cannot be expected to retain the necessary acquaintance with the anatomy, the diseases, and the treatment, in diseases of the ear. How many of these will attempt the puncture of the membrana tympani, or the injection of the eustachian tube? If we meet an ambitious and competent practitioner, here and there, who, amid his other extensive engagements, is willing to embark in this branch of surgery, he will require something more than a mere manual, for the revival or perpetuation of knowledge which he may have acquired at college, so, that, it is not so much a *manual* as a complete and full work, which we may acknowledge as being still a desideratum in this department of knowledge.

The translator of the work before us says, that “a concise manual of the diseases of the ear is an acknowledged desideratum in our medical literature.” We would ask is this really correct? And if so, is the work of doctor Saissy such a manual as will satisfy our wants, connected with this interesting subject? We are told, that, “no sufficient work on this subject has ever been issued from the American press;” and by inference, we must conclude that the translator fills a void in medical acoustics, by the manual of doctor Saissy. We shall now proceed to examine the work, and leave our readers to draw their own conclusions as to its utility.

Doctor Saissy enumerates, at page 18, some of the obstacles which have retarded the improvement of our knowledge respecting the theory and practice in diseases of the ear. We are well pleased with the following remarks. There is, says our author, a “belief that congenital deafness always depends upon some fault of original conformation. In consequence of such belief that species of deafness is regarded as irremediable, so



that no one presumes to employ the least remedial means. Nevertheless there are means which we can conveniently use, and frequently with much benefit."—"I do not pretend to call in question the defect of early conformation, which often presents itself in the structure of the internal ear." We believe with our author that infants may have diseases of the ear, both congenital and accidental, which sometimes lead to deafness, owing to a want of suitable treatment; but this is a difficulty not likely to be materially lessened, owing to the concealed nature of such diseases, and the fact that some weeks pass before we can discover the impairment, or loss, of this sense in infants. The following interesting facts, and observations, from Cheselden, serve to show that deafness may sometimes depend upon diseased action, which may sometimes be relieved. "In very young children I have always found this membrane, (meaning the *membrana tympani*,) covered with a mucus, which seems necessary to prevent sounds from affecting them too much, there being no provision to shut the ears, as there is for the eyes. A gentleman well known in this city, having had four children born deaf, was advised to lay blisters upon the heads of the next children he might have, which he did to three that were born afterward, and every one of them heard well. It seems not unreasonable to suppose that too great a quantity of this mucus upon the drum might be the cause of the deafness in the four children, and that the discharge made by the blisters in the latter cases was the cause of their escaping the same misfortune."

These cases go to show, we think, that congenital deafness is sometimes curable; but they serve too, to convince us, that our discovery of the disease may often come too late, to admit of successful treatment. In the cases of these children, the existence of disease in the three subjected to treatment, was presumed, on the ground of four preceding children, born in succession, being deaf. We think the presumption sufficiently strong to justify the opinion adopted by Cheselden, that the latter party would have been deaf, and that this calamity was averted by the remedy employed.

Doctor Saissy notices the difficulty of applying remedies to the ear as one of the obstacles which has interrupted us in the treatment of its diseases; but says, "that difficulty is removed as regards the affections of the eustachian tube, the cavity of the tympanum, and the mastoid cells. The instruments which I have invented, fulfil, in that respect, the end desired; for by

means of them, we can convey into those cavities the liquors which we judge proper."

We do not doubt but cases may occur in which benefit may be derived from injections into the eustachian tube, but still this is a practice by no means sufficiently established, and as to injecting this tube in infants, we believe very few will attempt it. Who can fearlessly throw irritating, or indeed, any kind of fluid into this narrow tube with a view of driving it into the exquisitely tender drum of the ear, and into the mastoid cells, not knowing whether it will certainly find its way out again? Have we no fears that such fluids may produce irritation, inflammation, and swelling of the eustachian tube; and, thus shutting up its calibre, may not fluids be detained, and lead to dreadful mischief? We do not presume to say that such will always be the case—we know the tube has been injected with impunity, but our experience is not such as to justify us in an indiscriminate use of injections, nor would we presume to use them in tender infancy, at all, were it even easily practicable. We can readily imagine that the lining membrane of the drum and eustachian tube, may be disturbed in their economy, and may become too dry from deficient secretion, or too moist; or it may be irritated by an acrid discharge of fluids, which by their being viscid may remain and clog the tube, or interrupt the action of the machinery of the internal ear. In such cases, provided we could ascertain the true nature of the aberration from the healthy function of the parts, we could no doubt afford very important advantages to our patients. But whence shall we derive our diagnostic signs in these internal and concealed affections. We may have occasion to notice this subject more fully as we proceed in our examination of the "manual" of doctor Saissy.

"Before entering on the details which each disease may present, we will glance at deafness generally, and first will give a clear and concise definition of the disease. We shall avoid equivocal terms, or those which are employed with ambiguity. We shall reduce the divisions to as small a number as possible."

"Definition—Deafness is a total loss, or a considerable diminution of the sense of hearing.

"Varieties—We may reduce the varieties of deafness to the four following:

- "1. If an infant has the defect at birth it is called congenital.
2. If it occur sometime after birth, as the result of disease, it is denominated accidental.
3. If it be the advance of age which gives rise to it, we give it the appellation of senile.
4. Finally, when deafness attacks only one ear, it is termed incomplete, and complete when both ears are affected.

"These four varieties of deafness will be embraced under two denominations.

"When deafness is incipient and hearing is merely difficult, we shall term the disease (*dysecee*) difficult hearing.

When deafness is complete and absolute, we shall, with most nosologists, denominate it (*Cophose*) complete deafness."

It may be asked here, has our author given a clear definition of the disease which he terms deafness? Is there not too much reason for objecting to the use of the *singular*, since deafness is the consequence of a very great variety of *causes*, of course many diseases? But this is not all—if we mistake not, a more unmeaning arrangement, and nomenclature, could not well be afforded, than that of doctor Saissy. He has unfortunately employed terms derived from circumstances the least important, as affording grounds for practical distinction. What practical advantage from knowing that a case is congenital, accidental, (unless the accident be specified) senile, complete because in both ears, or incomplete because in one only. It is true affections of the ear will be somewhat peculiar in their nature, at different periods of life, but as all ages are subject to most diseases, arising from malformation, and also from some peculiar morbid action, we do not derive any clear idea of any disease from these epithets, as congenital, senile, &c.

But what shall we say to the inaccuracy of having the same term applied under one of the varieties of deafness, as when both ears are affected, and we say the case is "complete;" although the deafness is not total, and, under different "denominations," we, also, say the case is complete, because both ears are entirely deaf. In a word, we think our author has been very unhappy in his choice of terms in his arrangement, and definition. So important do we deem this defect, that, we shall presently offer the terminology adopted by doctor Good.

We do not much like the slight manner in which our author passes over some varieties of diseases of the ear. He says, "I shall not introduce, in this division, another defect of hearing, to which some have given the name of paracousie, or false hearing. Of those who are affected with it, some hear indistinctly words that are spoken with a loud voice, while perception of feeble sounds is distinct. Others hear ordinary sounds when aided by a loud noise which accompanies them; others hear all sounds double." Surely all these are worthy of investigation, yet our author says, "I shall say nothing more of this variety of the disease." How unphilosophical to speak of this as a "variety," and collate it with such terms as *congenital, accidental, senile, complete, and incomplete*.

But we shall here leave our author and make a brief extract from doctor Good; in doing which, we expect not only to show how deficient is the arrangement of doctor Saissy, but render an acceptable service to the reader of the work of the latter

as his reading will better correspond with the significant nomenclature of Good, than with the unmeaning and very loose terminology of Saissy.

*Paracusis as a genus includes the following species (Good.)*

Paracusis Acris.	Acute hearing.
Obtusa	Hardness of hearing.
Perversa	Perverse hearing.
Duplicata	Double hearing.
Illusoria	Imaginary sounds.
Surditas	Deafness.

Believing as we do, that many of the topics connected with disease of the ear, have been omitted, or but very slightly hinted at, that are of more importance, to the general practitioner, than those treated of by doctor Saissy, I shall supply such defect, by a few quotations from the work of doctor Good. His observations upon his first species of paracusis are so very interesting that I have thought proper to quote nearly the whole chapter.

*"Hearing painfully acute and intolerant of the lowest sound.*

"This occurs occasionally as an idiopathic affection in nervous and highly irritable idiosyncracies, and bears a striking analogy to that acritude of sight which we have noticed under *paropsis lucifuga acris*.

"It depends upon a morbid excitement, sometimes of the whole auditory organs, but more generally of some particular part, as the tympanum, or the labyrinth, and particularly the cochlea, or some of the internal canals. In many instances it seems confined to the branches of the nerve; and Bonet gives an instance of it from the very singular cause of a triple auditory nerve formed on either side. It is found frequently as a symptom of earach, headach, epilepsy, otitis, cephalitis, and fevers of various kinds.

"The sensation is sometimes so keen as to render intolerable the whisperings of a mere current of air in a room, or the respiration of a person present." Our author goes on to relate a very interesting case of a young lady, then his patient. We shall decline citing the case, and add the treatment suggested by doctor Good, in the affection now in view.

"Injections of warm water, or a few drops of almond oil dropped into the ear will occasionally succeed in affording relief by relaxing the spasmodic tone of the vessels. But cold water and cold applications about the ear, and even pounded ice where there is no tendency to a periodic rheumatism, by directly inducing torpitude, will at times, have a better effect: Laudanum may also be introduced into the ear, and a blister be applied to its immediate vicinity."

We can readily agree with doctor Good, that where the disease is dependent upon relaxation or nervous debility, that the treatment proposed by him may prove often highly beneficial. But it is rather a singular oversight; that after naming otitis, and fevers of various kinds, as causes of this affection, he should omit to advise a strictly antiphlogistic plan, in cases requiring

it, as will sometimes be the case in fever, and almost always in inflammation of the ear. Here we may often employ both general and local bleeding, purging, antimonials, as general remedies; with cold or warm poultices, as the habits of the patient may seem to indicate.

**"HARDNESS OF HEARING.** *Hearing, dull and confused; and demanding a clear and modulated articulation."*

"This may proceed from organic defect, from local debility, in which case it is called nervous deafness; or from some accidental obstruction in the external tube or passage, as that of mucus, wax, sordes, or any other intrinsic body; or in the internal or eustachian tube from mucus inflammation or ulceration and its consequences. It is also found occasionally as a symptom or sequel in various fevers, in hemiplegia, apoplexy, otitis, leus, and polypus, caruncles or concretions in the passage of the ear: and has followed on drinking cold water during great heat and perspiration of the body."

It is obvious that as hardness of hearing may arise from a very great variety of causes, we must carefully endeavour to ascertain what may be the cause, in each particular case. But it is not our intention to enter into a treatise, on the diseases of the ear; and as many writers besides doctor Saissy have treated fully of several of the peculiarities attending the impairment of hearing, we shall close our remarks on this part of our subject, and proceed to give some observations of doctor Good on the use of the hearing trumpet, a very important instrument in confirmed cases of paracusis obtusa and which nevertheless has been but slightly noticed by doctor Saissy.

"Where hardness of hearing is habitual, and cannot be radically cured, we can only endeavour to diminish the evil by advising a hearing trumpet, which is, in fact, an instrument formed upon the principle of the outward ear itself, and the object of which is to collect a large body of sonorous tremors and send them to the tympanum in a concentrated state by means of a convergent tube, or, in other words, to increase as much as possible the vibratory power of the sound. Now sound is well known to be propagated in straight lines, and hence persons partially deaf will always hear most distinctly when directly opposite the speaker. For the same reason the trumpet itself should be formed as nearly as possible in a straight line; though we are sometimes, for the sake of convenience, obliged to deviate from this direction, and to bend the tube into the segment of a circle by which some degree of power is always lost. The metal of which the tube is made should be that which is most sonorous, or, in other words, which most completely reflects, instead of absorbing, the sound; and while the funnel or larger aperture is as wide as possible, the extreme end of the pipe cannot be too small." Why is it that so few persons avail themselves of the advantages of the ear trumpet? If this instrument be well adapted to the ear it may be worn with convenience, and will greatly aid those hard of hearing in collecting sounds upon the auditory organ.

**"PERVERSE HEARING.** *The ear only sensible to articulate sounds when excited by other and louder sounds intermixed with them.*

"This is a very extraordinary hebetude of the organ, though it has

occasionally been met with in most countries; where it exists, the ear, as in other cases of imperfect hearing, requires to be roused, in order to discriminate the articulate sounds addressed to it, but finds the best excitement to consist in a great and vehement noise of almost any kind. It consists according to Sauvages, who seems to judge rightly of it, in a torpitude or paresis of some parts of the external organs which in consequence of this additional stimulus, convey the proper sounds addressed to them beyond the membrane of the tympanum, in the same manner as the drowsy or those who are sluggish in waking, do not open their eyes, or admit the light to the retina unless a strong glare first stimulate the external tunics. It seems, however, sometimes to depend upon an obstruction of the eustachian tubes."

It appears that particular sounds suit some cases which are not so well suited to others. While some have had a preference for bells, others have found the noise of a drum most congenial to their wants.

A case has been cited by doctor Good in which the patient only heard well while subjected to the noise of a running carriage—also another in which the hearing was best excited by the shrill noise of a pipe.

It is said that benefit has been derived sometimes from keeping the auditory organs excited in these cases, by the sounds which best suit the individual. Such is the intricacy of the mechanism of the organ of hearing, that, we cannot expect ever to understand the true nature of some of its impairments; and it is probable that the disease now before us will continue to hold a place among the number of those inscrutable maladies. There appears to be a degree of dullness, since the sounds must be loud before the ear is excited, still, this dullness is quite peculiar, and very different from hardness of hearing.

Doctor Good gives us the following remarks on the treatment of this affection.—"Voltaism may here also be employed in many cases with a considerable promise of advantage; and especially in connexion with the ordinary routine of general and local tonics and stimulants, as cold, and cold bathing, pungent masticatories, and injections, bark, valerian, alone or with ammonia, and a free use of the siliqueose and coniferous plants as a part of the diet."

This affection will doubtless be seen dependent upon some constitutional affection in some cases—where this is found to be the case, the treatment must of course be suited to the general disease. We believe all the senses, but more especially the senses of vision and hearing, may be impaired or destroyed by syphilis. This will of course suggest the employment of mercury, and, indeed, there is reason to believe that in cases not dependent on that cause, provided there be no very obvious contraindications, we should have recourse to this remedy. We should also try the effects of sternutatories. And as there

appears to be a necessity for augmented sounds, we might expect much advantage from the use of the ear trumpet.

**"DOUBLE HEARING.** *The action of one ear inaccordant with that of the other; sounds heard DOUBLY, and in different tones or keys."*

This species of *paracusis* is said to be mostly temporary, but, nevertheless by neglect has become *confirmed* and incurable. It is sometimes connected with constitutional debility and requires the use of tonics, with other correspondent treatment. In recent cases the disease has yielded to local irritants.

**"IMAGINARY SOUNDS.** *Internal sense of sound, without external causes."*

This disease is mostly a nervous affection, that is, of the auditory nerves. We generally find in these cases that persons so affected hear moderate sounds, but cannot collect the modulated sounds of the human voice; we know a gentleman upwards of sixty, who has been rendered very dull of hearing, and has suffered much from the constant sounds in his ears, partaking occasionally of the several varieties noticed by Good—the *ringing* or *tinkling*—*whizzing*—*beating*. These several sounds depend upon the more or less violence of the disease. In ordinary he complains of distressing *ringing*; next in force is the *beating*, and when ill from cold or fever he complains of a most distressing *whizzing*. In this last state he says there is a loud noise like *whoo, whoo, whoo*.

This affection is occasionally dependent upon an obstruction of the eustachian tube, and in such cases, sometimes curable by opening the tubes by means of injection, or by perforating the tympanum.

Doctor Saissy says, "Cooper," in relation to this point, entertains an opinion counter to that of Diemerbroeck. "When the defect, says Cooper, is owing to an obstruction of the tube, there is none of that roaring sound which accompanies nervous deafness.—I am in possession of facts which prove the contrary."

The gentleman whose case I have just stated, can distinctly hear the ticking of a watch at some distance, but hears little or nothing said in conversation. I have observed that he hears what is said by his wife, in a lower tone of voice, than he can hear any other person. Many remedies both constitutional and local have been long used ineffectually. In this case there is an unusual force of arterial action at all times, and sometimes when much affected with giddiness or fever, the arteries beat with a most astonishing force.

This disease when confirmed is mostly incurable, but doctor Good mentions the case of an elderly lady who after being long affected, notwithstanding the use of every remedy, was

at length gradually relieved without the employment of any curative means.

We have seen one severe case of this affection in an old man who could scarcely be made to hear any thing which was said aloud at the side of his ears. Upon inspecting his ears, the meatus externus was found almost filled with cerumen. By means of a syringe with some castile soap and warm water, we removed this extraneous matter, and before he left the office he heard quite well, leaving us in an extacy of joy at his unexpected relief.

Something of this form of deafness is sometimes seen in cases of inflammation of the meatus or adjacent parts, here of course, we must treat the case on general principles. Blisters, leeches, poultices, warm oil in the meatus, with general bleeding, purging, antimonials, strict abstinence, &c. are our means for combating the inflammation; and, when this disappears, in most cases, even though there may have been suppuration, provided it be not too deep, we shall have a perfect return of the hearing.

*"Paracusis surditas—DEAFNESS. Total inability of hearing or distinguishing sounds."*

Good makes three varieties of this affection,—organic deafness—Atonic deafness—and paralytic deafness. This affection arises from a variety of causes, as malformation, obstructions by wax, polypi, &c.; by closure of the eustachian tube, the destruction of parts of the internal ear, loss of nervous power, &c. We believe very few cases of total deafness admit of relief. In our own practice we have always found this to be the case. We have met a considerable number of cases of total deafness in one ear, attended with the destruction of the membrana tympani, to more or less extent. This may easily be seen by throwing a strong light into the meatus. Where there has been some difficulty owing to the presence of hairs, wax, &c. we have by passing in a probe, found its point against the bone before aware of having entered the drum. In such cases the membrane is destroyed by tedious suppuration, often of a chronic character—such cases may almost invariably be set down as incurable, provided the sense of hearing is once lost.

Hearing is sometimes lost suddenly in fever, it may also be destroyed by excessive noises as the report of cannon or thunder; repelled gout, eruptions, &c. sometimes lead to the loss of this sense. By finding out the cause, and regulating our remedies accordingly, we may sometimes overcome this disease. Many cases are on record, of persons who have recovered their hearing quite sud-



denly. We well remember the case of a man upwards of seventy, who was very deaf during many years, and who without the use of any means, and wholly without any such expectation, recovered his hearing very tolerably during sleep at night. These facts should excite us to vigilance, and make us cautious how we abandon persons as incurable. By such conduct we may sometimes consign to sore affliction persons whose cases admit of restoration, partial or complete.

Our author (doctor Saissy) having given his definition, and the several varieties of deafness, commences his practical observations under the following arrangement. First. Diseases of the membrana tympani. Second. Diseases of the tympanum, of the muscles and small bones which are found there. Third. Affections of the interior of the eustachian tube. Fourth. Diseases which affect organs adjacent to the tube. Fifth. Diseases of the labyrinth. Sixth. Diseases of the auditory nerve. In pursuing this arrangement, the author devotes his first chapter to some observations on the fungous membrane which is supposed to cover the membrana tympani.

We quote the following from the manual before us: "The membrana tympani in new born infants, says Leschevin, is overspread, on the side of the meatus auditorius externus, by a very thick fungous membrane, which soon disappears in consequence of suppuration. Whenever it happens that this membrane remains adherent to that of the drum, instead of being separated from it, as commonly happens, it will necessarily occasion deafness."

We shall wave our opinion of this membrane for the present, in order to notice what we consider a very extraordinary supposition of doctor Saissy, who asks the following question—"May not this have been the case with the deaf mute of Chartres, whose history is reported in the Royal academy of sciences of Paris, 1703, and who began to hear at the age of twenty-four years, after suppuration? The deaf mute of whom Riolan speaks, who recovered his hearing after perforation of the membrane with a tooth pick, was undoubtedly in the same condition."

What are we to think of such an opinion? Can we believe that an adventitious membrane which existed at birth, remained attached to the membrana tympani, and grew with its growth upwards of twenty years, then suppurated and disappeared, leaving the true membrane in a healthy condition. We do not deem such an opinion entitled to any serious notice.

We are reminded here of what Cheselden has said respecting the membrane of the tympanum. "In very young children I have always found this membrane covered with mucus which seems necessary to prevent sounds from affecting them too much." This is the foundation of all the conjectures of Les-

chevin and Saissy respecting a membrane covering the membrane of the *drum*. The latter tells us that M. Le Docteur Portal raises doubts in regard to the existence of this membrane. Doctor Saissy gives us the objections which Portal offers against such an opinion, but we do not deem the subject entitled to further notice. We feel it a duty, however, to examine the opinion of Saissy, with a view of pointing out practical measures which he proposes, and which we believe highly objectionable.

In answer to the objections raised by Portal, our author says, "It is certain that this fungous membrane may, in some subjects, exist at the time of birth, as the *membrana pupularis* is found to exist in some others."

"Granting this to be a cause of deafness, it cannot be difficult to recognize it. By exposing the ear to a strong light, and directing the rays of the sun into the meatus auditorius, the bottom of the meatus will be very easily seen, where the false membrane adheres to that of the tympanum. If the bottom of the meatus be of a pearly white, smooth and very sensible to the touch of the probe, we may be certain that the membrane is covered by no obstruction. But if it appears red, fungus, but little, or not at all, sensible to the probe, we may be sure that the false membrane exists."

We are told that Leschevin proposes two methods for the removal of this false membrane—first we are to cause "it to suppurate, by irritating the parts by acrid medicaments; the other in causing the false membrane to wither and to separate by desquamation, by touching it with mild corrosives of dry consistence, as the *kali purum*, applied cautiously." Our author decidedly, and in our opinion very correctly, objects to this practice, and says, "that these remedies instead of causing the separation of that kind of foreign substance, either by suppuration or desquamation, they confer upon it a greater degree of thickness and consistence."

Doctor Saissy after stating his objections to the method of treatment of Leschevin, says, "I shall give preference to perforation of the tympanum, because it appears to me less dangerous, and because it restores the patient's hearing more promptly than any other method, as is proved by experience and observation. To prevent the closure of this aperture, a small portion of gum elastic sound should be introduced, which operation must for a time be repeated every day."

We should like to know where we shall find any evidence of the value of this proposal by "experience and observation." Experience teaches us that the operation of perforating the membrane of the ear is sufficiently difficult in the adult, how much more so must it be in the infant? Who will answer for it, that we can perforate the membrane without destroying the whole of it; and perhaps part or all the moveable bones? And who will guarantee that the opening will remain open, in one case in the hundred, when the ear shall have attained its full

size? What shall we say to the proposal of ascertaining the degree of sensitiveness of the exquisitely tender tympanum of children by the "probe"? What are we to think of introducing a gum elastic bougie daily into the drum of the ear of infants, during the inflammation, succeeding an operation? We say, may heaven forbid such a measure of cruelty and danger. In a word, it would have been well if doctor Saissy had not written this chapter till his experience and observation would have authorised it, and, then, we may well believe, it would never have appeared.

In looking through the chapter in the manual of Saissy, "on polypus growing upon the external surface of the membrana tympani," we do not observe any thing particularly entitled to notice, except his remarks upon the causes which give rise to polypus. "Every thing, which irritates and produces inflammation and ulceration of the mucous membrane, may give rise to polypus. Thus it is that an ear pick, introduced frequently and rudely into the auditory passage; scabies, scrofula, measles, scarlatina, small pox, and syphilis, give rise to inflammation, ulceration, and by consequence, polypus."

We are far from believing that polypus is so much an accidental thing, and the offspring of so discordant a group of causes. How often do we see ulceration in the ear, without polypus, and how often do we see polypus without ulceration? There can be no doubt, we think, that polypus is not less the result of a specific action than is scabies, scrofula, measles, &c. which are said to be the causes of it. Indeed, we think, that in this respect, polypus appears to be more a thing sui generis than many of the causes alleged by our author—thus scrofula, ulceration, syphilis, &c. extend their morbid influence over almost every part of the system, while polypus is a disease always seated in the mucous membranes, and appears to be the result of a peculiar inflammatory action, and, therefore, not derived from any but one cause—it is the result of a polypus inflammation.

*On relaxation of the membrana tympani.* We do not observe any thing worthy of particular notice in this chapter, if we except the curative means pointed out. We are told that "if the relaxation depends upon a catarrhal affection, Duverney advises fumigations of the external auditory passage, with the vapour of the *carduus benedictus*, or with a decoction of the iris of Florence, *margoram*, balm, anise-seed or fennel; the juice of *margoram* dropped into the auditory passage.

"Barbette employs a decoction of cloves in red wine, of which he introduces a few drops into the auditory passage, which he then fills with a clove.

"All these means may be attended with happy effects, in cases which we have designated, and in which the relaxation depends upon the humidity of the atmosphere.

"In similar cases, fumigations of juniper berries, and of laural consumed

upon burning coals, will be beneficial. Injections of the decoction of cinchona, have, with me, been beneficial; but I would not have too much confidence placed in this remedy, because of its astringent property which tends, if we may so say, *to tan the membrane.*" Our author also tells us, that Leschevin, advises us to introduce into the cavity of the tympanum, through the eustachian tube, some spirituous and aromatic vapour, by causing it to be breathed through the nose."

We think our readers will surely agree with doctor Saissy when he says, that "it is obvious, though I were not to mention it, that these means are by no means sufficient to convey effectually these medicaments into the diseased part." But we more than doubt the reader's assent to the following. "We shall derive very great advantage from lotions of the mineral water of Balaruc, of Barege, &c. introduced into the tympanum by means of the hollow sound which I have invented." The reader may have observed that much has been ascribed by Saissy to the humidity of the atmosphere. Indeed it is made a cause of the disease—may we expect to overcome this cause and give tone to a relaxed membrana tympani by *Balaruc* injections to the inner ear, and not expect as much from outward medicaments? In a word, we have but little reason to admire or adopt the practice of our author in this affection.

The reader will doubtless think the following views sufficiently curious to entitle them to a slight notice. "The causes of deafness are innumerable, and every day we discover those which are new. For example, authors make mention of relaxation of the tympanum with protrusion into the meatus auditorius; but no one, so far as I know, has spoken of the sinking of this membrane into the hollow of the tympanum." Our author goes on to relate a case and thus concludes.—"On attentively examining the auditory passage, I perceived that the auditory passage was depressed, and formed a pouch in the cavity of the tympanum. What has become of the handle of malleus when the membrane can thus fall inward? We imagine ordinary visual powers will never discover this diseased state of the membrane.

But if the information relating to the nature of this affection is curious, the means of cure are much more so.—"The cure consists in re-establishing the natural form of the membrane. This may be accomplished by means of injections, conveyed into the cavity of the tympanum, through the eustachian tube. *The first trial of it has been sufficient to restore hearing.*" This reminds one of reducing a luxation of a joint, but really one can scarcely treat this subject seriously. A living membrane with its muscular tensor tympani, the corda tympani, the attach-

ment of the malleus, and still the little dense membrane pouch down into the drum filled with air—admirably strange! but stranger still, that this extreme relaxation will admit of a cure by a single injection; by which the inward bulging is pressed out, and, just on a level. We are reminded here of some little urchin who dinting in the bottom of a tin cup, by beating it with his fist, finds when he would restore the bottom to its level plane, that he pushes the part beyond the level—not so with the membrana tympani—it may, according to Saissy, bulge in, or out; but in either case, you have only to press on one side, and, it becomes all level again, and recovers its tone and its power at the same time. More wondrous still we are told, “that we must discontinue all injections, and especially abstain from introducing them into the external meatus as soon as the membrane has recovered its natural form, and hearing is restored; otherwise the disease will be reproduced as it was before the treatment.”—“At first glance, the cure of this malady seems to be altogether mechanical, but I believe that the water of Balaruc by its tonic virtues, ought to be regarded as of some account in the treatment.” Doctor Saissy cured this affection by a single injection not “mechanically,” but by the water of Balaruc. What a pity he could not have sent this potent *water of Balaruc* to this country with his book, seeing it makes so conspicuous a figure in the manual.

“On morbid tension of the membrana tympani. Duverney and Leschevin ascribe preternatural tension of the membrana tympani to violent diseases of the head, and also to certain fevers which tend to produce phrenitis. To these general causes we ought, as I think, to add inflammation of the fauces, imparted to the eustachian tube, for we observe in this case the sense of hearing to be morbidly increased.” We are told that in these cases “the patient hears better when the season is humid, and when the south wind prevails, than when the weather is dry, and the north wind blows.”

What reason have we for ascribing disturbed hearing in phrenitic and other fevers to too tense a state of the membrane? It is surely not in these cases that our author observed the effects of humid air, south winds, &c. Is it not more consonant to a sound pathology to trace the impairment of febrile patients to nervous disturbance, or sometimes to wrong action in the sensorium itself? We are told not to forget the primary disease in these cases, but are to add, as local remedies, “the vapour of emollient decoctions—decoctions with warm milk—oil of almonds, &c.

What can we expect from the vapour of emollient decoctions more than their heat and moisture? It is true narcotics may in this way be carried to parts and exert something of their

soothing influence—and we accordingly find that the vapour of some of the narcotic herbs may be beneficially applied—but even these are usually but palliatives.—It is to rubefacients, blisters, local bleeding, &c., applied according as the case shall present an entonic or atonic aspect, that we are to look for efficient local remedies.

*On Inflammation of the Membrana Tympani.*

Inflammation being the same thing in whatever part situated, we do not deem it necessary to detain the reader with any remarks upon the causes or symptoms, as doctor Saissy does not offer any thing new or interesting on these points. But we have thought proper to call the attention of the reader to the curative means suggested in the chapter before us.

We are advised to employ “bleeding in the arm or foot, if the inflammation depends upon general plethora.”—Is this sound practice? how often will inflammation of the ear “depend upon general plethora?” we say never. These conditions may be accidentally coincident, but never directly as cause and effect. We are advised in cases where the *plethora* is *local* to employ *local* bleeding. Few cases of severe inflammation will yield readily without general depletion—in very frail and enfeebled habits this may however, sometimes be proper and effectual. But we are convinced that in a great majority of cases so far from relying on local bleeding early in the disease, we know from actual experience that in many cases if we do not reduce the system before employing local bleeding, the inflammatory action will be increased. Here again doctor Saissy recommends “emollient vapours, such as decoction of mallows with milk, introduced, as a bath into the auditory meatus, these liquids dropped into the same part.” What are we to expect in the vapours from mallows and milk, different from the vapour of warm water? “Sinapisms to the feet, and emollient enemas ought not to be omitted.” Admirable comfort this, for a patient tormented with pain in the ear. We will answer for it, that such remedies proposed by a physician for ear-ache in a sensible family will procure him a dismissal. The patient needing cooling drinks may drink “chicken water,” and other “cooling liquids.” If chicken water is a cooling beverage in France, in cases of inflammation, it must be a different article from what it is in this country.

“Such is the treatment proper for acute inflammation, which sometimes terminates in suppuration.” We would rather say here that if inflammation of the ear be thus slightly treated, in this country, it will *sometimes not* suppurate, generally we

believe it will; but if promptly treated by the usual more powerful antiphlogistic means, suppuration may mostly be avoided, provided early application is made for relief.

We are told that if the disease terminate in suppuration "it is necessary to make use of detergent injections, such as those of barley-water with honey, a decoction of briar leaves, the mineral water of *Balaruc*, or that of *Barege* &c. &c. We would here decidedly object to these astringent and stimulating injections to a recent suppurating surface. In other situations we see the most decided benefit from continuing our emollients at least until the inflammation shall have passed away, and we suspect that it will be succeeded by some degree of relaxation of the vessels concerned in the disease. Under this last circumstance some days after the discharge of the pus we may use mild astringent injections with advantage. Before we pass from this part of our subject we will just remark, that the foot note of doctor Smith, which we are about to notice, stands liable to the same objection which we have made to the practice of Saissy. That is, if doctor Saissy has erred in recommending astringent or "detergent" injections into the ear as soon as suppuration has taken place, doctor Smith has equally erred, if not in a greater degree, in recommending "weak solutions of zinc, sublimate, or nitrate of silver," unless the case become chronic.

Doctor Smith has made the following note on the paragraph in which he recommends the injections to which we have just objected—it stands thus. "No one can read the above paragraph, and its contents, without being struck with the contrast between the scientific precision of French pathology, and the imbecility and diffusiveness of some parts of their practice. In cases of suppuration occurring in the *membrana tympani*, the practitioner instead of lamenting that he has not the water of *Balaruc* or *Barege*, may deterge the ear with a weak alkaline solution, and when the inflammatory excitement has abated, may employ in the same manner a weak solution of sulph. zinc, sublimate, or nitrate of silver."

We should prefer in these cases throwing in a little warm milk and water at first, after a day or two, a little castile soap and water; but these detergents as they are called are never necessary, and will often prove detrimental by over stimulation, or by giving too sudden a check to the discharge. Indeed, our own observation has led us to believe, that after suppuration of the ear, the less we do with it the better—in most cases the better practice is to drop a little warm salad oil, or oil of almonds into the ear, and absorb this and the discharge by putting a little loose soft cotton into the meatus. We will answer for it that in any given number of cases this will be found the more agreeable and successful practice. But we are not done

with the *note*. The translator has here said too much in one sense, and quite too little in another. He complains of "the imbecility and diffusiveness of some parts of their, (the French) practice." If we except the operative part, we know not of one instance in which doctor Saissy points out an efficient and rational practice, either local or general. But we are told that we must be "struck with the contrast between" pathology and their practice," which last is said to be imbecile, &c. One is led to suppose here that doctor Smith is impressed with the belief that his readers will be sensible of the defective practice of his author, and would seem to presume that the reader can supply the deficiency, or, why else has he not told us what would be the proper practice. Upon the whole, it is clear that in order to render the manual of doctor Saissy a useful book, his translator should have accompanied the pathology of the work with practical notes, since there is not, as we believe, one subject, from one end of the book to the other, treated of agreeably to sound practical experience, as it stands in this country, and great Britain. In support of what we have here asserted we shall follow our author a little further in his practical views.

"If tumefaction of the glands of the membrane be the cause of this induration, whether it be the effect of a strumous or of a dropsical habit, in either case, besides encountering the principal disease, we should establish a caustic issue on the arm of the affected side."

We will pass over what is said respecting disease of the glands of the *membrana tympani* as a consequent of *dropsy*. We must leave others to find out how we shall know deafness to depend upon disease of these glands. But we are constrained to be a little harsh here and say, we should be apt to pronounce a man either a knave or a fool, (not meaning to impute this to the author,) who would apply "a caustic issue to the arm" for the cure of "diseased glands of the *membrana tympani*."

Doctor Saissy after noticing the perforation of the membrane of the *drum*, by Mr. A. Cooper, and some of the French and German surgeons, has these remarks, upon the practice of Mr. Cooper. "I shall not here examine upon what circumstance the theory of the author (Mr. Cooper,) is founded, but it is important to direct our attention to the operation itself, and its results. 1. Is the operation proposed by Mr. Cooper always practicable. 2. Are we sure of reaching the spot indicated by the author. 3. In cases approved by Mr. Cooper, will the operation be followed with success, provided the operation be done in the manner prescribed? The above are questions which it is important for us to examine."

"The preferable place for operating, pointed out by the author, (Mr. Cooper) will be attained with difficulty, whatever may be the information or dexterity of the operator. The motions of the patient, the very small distance that there is between the part which is to be perforated and that



which is to be avoided, present obstacles which must be with difficulty overcome, and consequently, will, in some degree, defeat the success of the operation.

"If we consider, indeed, that the *membrana tympani* is scarcely more than two lines and a half in its greatest diameter—that the *malleus* occupies more than a third of its surface, to the centre of which the handle of that little bone is attached, we will perceive that it is almost impossible to accomplish the proposed operation without injuring the apparatus of hearing."

We are reminded here of the saying that a man who can see a mote in his brother's eye, cannot see the beam that is in his own. Here we see doctor Saissy taking pains to show the difficulties, the dangers, and the uncertainty of perforating the *tympanum*, as performed by Mr. Cooper, and has himself unhesitatingly proposed this operation upon infants affected with a *supposed false membrane* attached to that of the *drum*.

We are however much pleased at the proposal of our author for injecting the ear in cases of perforation. It is quite probable, we think, that this would sometimes obviate the difficulty so often attending the closure of the *perforation*. Besides, the operation may often give rise to the deposition of coagula of blood within the *drum*, and it is not difficult to see how readily this may do mischief.

We are also much pleased with the proposal of injecting the *eustachian tube*, before we attempt perforation of the *membrane*. We can scarcely doubt the fact, that one or both the tubes may be mechanically stopped, and therefore admit of being forced by the syringe, although we may not be able to force air into the *drum* by blowing in the usual way.

*On extravasation of blood in the cavity of the tympanum and mastoid cells.*

In this chapter our author, we think, has offered a very judicious criticism upon the method of perforating the *membrana tympani* by Mr. Cooper, in cases where blood is collected in the *drum*. In one case Mr. Cooper succeeded by this operation, but doctor Saissy very justly remarks, that "he succeeded, because the blood was still fluid. But if it had become solid, the perforation alone would have been insufficient." We agree with our author in the opinion, that in these cases a more safe, and we think, at least equally certain, plan of procedure, is to inject the internal ear through the *eustachian tube*; and that this method may be made to succeed sometimes, whether the blood impacted be fluid or coagulated. Certain it is, that with these suggestions of doctor Saissy before us, it would be unwarrant-

table to perform so violent an operation as *perforation* until *injections* shall have failed.

*The imperforate condition of the eustachian tube, and the closure of that canal.*

Doctor Saissy tells us in this chapter, that he was the first to propose and practice an operation for opening the imperforate eustachian tube. He relates an attempt in which he failed after repeated attempts to pass a "silver stylet." We are directed to enter the stylet into the funnel mouth of the trumpet, and pass it on in the direction of the internal ear and course of the eustachian tube. After describing this operation which we do not think sufficiently important to relate, he comes to this very extraordinary conclusion, after mentioning a complete failure, in the only case wherein he knew the operation to have been attempted. "*This operation, complicated in description, is much more simple and easy in execution.*"

In addition to the remarks we have just cited, we have thought proper to notice the following note, which while it contains a proposal no less extraordinary and futile than that of Saissy, is, nevertheless, a just criticism upon the proposed operation of this author.

"The process which the ingenious Ducamp has employed in the treatment of strictures of the urethra, would here be very useful. The employment of caustic is less to be feared, in this case, than that of a sharp instrument. It acts, it is true, in a slower manner, but much more certainly. A canula armed with a trocar, introduced thus deeply, may take a wrong direction, inflict injury upon nerves, and thus give rise to alarming symptoms, wound the branch of an artery, and give rise to hemorrhage which might defeat the success of the operation. Besides, the other method is much less painful, and in performing it, it is unnecessary to introduce the lint or cat gut, designed to prevent the closing of the lips of the wound, a mode of dressing difficult to the surgeon, as well as distressing and troublesome to the patient."

"As in this case there is no stricture to be overcome, but only an imperforate state of the eustachian tube to be remedied, it is necessary to modify the instrument in some respects. Instead of placing the caustic in the sides of the fossæ in the metallic portion, as in the instrument of Ducamp, it is necessary to have a socket hollowed out in the extremity for the nitrate of silver, which should here be employed, not for the purpose of removing a lateral stricture, but rather for restoring a channel which has been completely obstructed."

There being no signature to the above note, we are left to presume that it was made by our author, yet, such is the tenor

of its criticism upon an operation said to be so "simple and easy in execution" by him, that it must be viewed as a very singular production.

We are far from wishing to decide between the method of puncture, and that by caustic for opening the imperforate eustachian tube. We consider both alike so preposterous, from the little probability of success, and the extreme danger, that we have no hesitation in saying it will not do!

We must admire the frankness of our author in acknowledging the incautiousness of attempting to open an imperforate tube by a stylet, in a case wherein the membrana tympani was destroyed. This fact so honestly related, reminds one of the superiority of the operation of perforation of the membrane in cases in which we cannot open the eustachian tube by injection.

We have now completed all we deem important to be said on the work of doctor Saissy. And to sum up our decision in as few words as possible, we would express as our opinion, that, as is common with French authors, doctor Saissy has done credit to himself, generally speaking, as relates to pathology, but in the practical part, with the exception of his views on injecting the eustachian tube this "manual" is defective, and will not therefore add very much improvement to our treatment of diseases of the ear.

## BIBLIOGRAPHICAL NOTICES.

*Elements of the theory and practice of Physic.* By GEORGE GREGORY, M. D. with notes and additions adapted to the practice of the United States. By NATHANIEL POTTER, M. D. Professor of the theory and practice of Physic in the University of Maryland, and S. COLHOUN, M. D. "*In morbis sive acutis, sive chronicis, viget occultum quid, per humanas speculationes fere incomprehensibile.*" Baglivi. Second American, from the third London edition, with numerous additions and amendments. In two volumes. Philadelphia, printed by Tower and Hogan, 255, Market Street.

HAVING made ourselves so far acquainted with the elements of doctor Gregory, as to enable us to form a very favourable opinion of the work, we deem it a duty, which we owe the medical public, to add our approbation to that which has been already awarded it. It having been the object of the author to exhibit a condensed view of the science, so far as connected with the theory and practice of physic, the work necessarily embraces a very great variety of subjects—this renders it almost impossible to enter into a detailed notice of particular parts, we believe, therefore, that we shall perform a more acceptable service, by expressing our opinion on the merits of the book as a whole. This shall, at least, be the principal drift of our notice, and in pursuance of this intention, we proceed to give the advertisement of the author to the third edition, and also, doctor Potter's preface before we enter upon our examination of any part of the book.

"In the year 1826, an edition of this work was published at Philadelphia, with very copious notes and additions by doctor Potter, professor of the practice of physic in the University of Maryland, and doctor Colhoun, of Philadelphia. In preparing the present edition for the press, the author has not neglected the opportunity thus offered him of enhancing its value. He desires to offer his testimony to the merits of the American editors, who with great judgment have filled up parts of the work which had been but briefly sketched; and by their notice of many American drugs, unknown to the author, and by their greater familiarity with the diseases of warm climates, have added largely to its general utility.

"It would be superfluous to specify in detail, the different chapters which have now undergone alteration. The whole has been thoroughly and carefully revised. Several topics unnoticed in the preceding editions, have been introduced, such as delirium tremens, cachexia africana, hepatalgia, erythema nodosum, &c. Many have been considerably expanded; and throughout the work, the result of the author's recent experience

will be found united with the most important practical suggestions of late writers."

*Preface by doctor Potter.* "Any commendation of the following work would be almost superfluous. Its own intrinsic worth is its best eulogy; but it is only to those who are well versed in practical lore, that it will bear *prima facie* evidence of its own superior excellence. The young and inexperienced cannot duly estimate a system which constitutes a rather (rather a) converging series of maxims, than the minutiae of practical detail. The author seems to have composed it as a syllabus, from which he has left himself at liberty to expatiate in all the latitude which great erudition, faithful observation, and ample experience justify. If we were inclined to adopt a text book, as a guide to a practical course, Gregory's Practice would claim a preference to all other works.

"The author has presented his work in the most interesting garb, by combining the etiology, pathology, and symptomatology, in the series of cause and effect. This scheme has been executed with so much felicity, in so small a compass, that it has become a real treasure to both preceptor and pupil. The former finds his experience confirmed, and the latter has only to dig, to find a mine more precious than silver or gold. How many of our practical books are almost destitute of all the laws of pathology, are nearly empirical, and therefore in the exact ratio of their defect of principle, indifferent or useless! Nor are these the only merits of the work. We must bestow on the author his due meed of praise for disclaiming that fastidious adherence to nosological distinction, to which so many of his countrymen are unduly attached. We do not predicate this reflection, on existing systems of nosology, or on a conviction that a perfect synoptical arrangement of diseases will be forever impracticable; but from the belief, that all the systems heretofore published, are erroneous, and perhaps radically wrong. We venture to predict, that no perfect, or even very useful system of nosology will ever be devised, unless it shall have been (will ever be devised unless it be) predicated upon the natural and obvious divisions of the human body, into various departments, according to their difference of organization. The elective attractions of the causes of diseases for some textures in preference to others, as well as a natural preference of medicine for one organ rather than another, indicate the necessity of reverting to first principles, before we can construct nosological tables upon a philosophical basis.

"The learned and judicious author not only reasons well from just premises, deducing legitimate practical conclusions, but has broken some of the strongest habitual associations. He does not believe the constitutions of the British people have so degenerated, that they cannot sustain the rigor of the antiphlogistic treatment adopted, and so triumphantly pursued by the immortal Sydenham. The sanguinary (sanguineous) practice so familiar among us, would not alarm him, who well knows it is not debility, but disorganization that is to be apprehended in fevers and inflammations. This rotten excrement of the Brunonian doctrine, had been already extirpated by his countrymen Mills, Armstrong, and some others. The most prominent feature in his character seems to be his judgment, or that gift of nature which confers on a few distinguished individuals the faculty of distinguishing between the true and the false, almost intuitively, certainly without any tedious process of reasoning."

Doctor Colhoun's introductory discourse upon Gregory's work, by pointing out the leading objects of the medical inquirer, with a philosophical clearness perhaps never equalled, adds much

to its value. We are pleased with the concluding paragraph in his first division, page xii. In this paragraph doctor Colhoun has related the general design, or course of philosophizing, pursued in the elements; he says:

"In the following remarks, therefore, as medicine is a science which teaches something to be done, and the most correct mode of doing it, and as it uses natural agents to effect its purposes, we shall first consider the nature of cause and effect, in relation to the production and cure of diseases; and secondly, the sources of the errors of medicine, discovered in the history of its past ages. We shall thus be enabled to pursue our way upon the firm and open road opened by modern discovery, with profit and advantage."

Upon a cursory view of the subject, every man of common understanding will look upon the nature or relation of cause and effect as a very simple and familiar matter. A closer examination will, however, convince us, that however susceptible this may be of explanation in some branches of science, in the medical this forms the greatest barrier or obstacle to sound theory, and successful practice. We think that doctor Colhoun has exhibited this subject in a more than ordinarily lucid manner, and shall, therefore, cite a few of his more striking remarks.

"The causes operating on the human body also vary in the precision and degree of their results; at one time and in particular habits, producing slight, at others great and decided effects: whereas, in the phenomena of chemistry and natural philosophy, causes are exactly measured by their effects; thus, if a pound weight be placed at one end of a lever of a certain length, it will raise a certain weight at the other end, and its power is determined by known laws; and if a certain body is to be saturated with an acid, the necessary quantity can be ascertained, and all difficulty is removed in future manipulations, provided the purity of the ingredients be known. In the operations of the human system, however, this is not the case; thus, the quantity of the poison necessary to produce a bilious fever, is not known; the precise effect of certain states of the system, as plethora, which may increase the fever are so likewise, that of others, which exist exterior to the body, is also unknown; as the influence of a high temperature in exhausting the system, &c. and producing a low or typhus disposition. To give another instance; the variolus matter inserted into the arm produces a pustule, a fever, pustules over the skin, and scabs, ending either in health or death. Some of the circumstances which modify the fever are known; thus, a low diet previous to the inoculation, renders it mild; but the exact strength of the disease is not to be ascertained by any precise admeasurement, nor the precise effect of diet in abating it; its general course, and some of the circumstances that influence it, are ascertained, but the degree of this influence varies in different subjects, in a manner which our science gives no precise rules to determine or foretell; this difficulty arises partly from the little attention which has been paid to the discovery of tests, for the various and peculiar states of the system; and secondly, to the inherent difficulty of the subject. It is a property of the living body to take on a violent reaction, on a slight cause at some times, at others to retain the regular tenor of health, under every

variety of exposure; and this depends upon some secret cause within, known under the vague and uncertain epithet of predisposition or susceptibility to disease, which we have no test to measure or appreciate, except by the morbid result. Thus a man exposed to the miasmata, which produce the fevers of hot climates, will continue in perfect health, though his system is loaded with the poison, till he is exposed to a sudden cause affecting either his body or mind, as a shower of rain, the emotion produced by a frightful story, &c. From the calmest state of health, his disease, a violent fever, suddenly appears, and the tendency to death is rapid, unless counteracted by some powerful agent, as the effusion of cold water, which sometimes suppresses the disease at once; or by the use of blood-letting, or tartar emetic, which palliates and mitigates the fever, till it terminate in recovery or death. The cause appears here to be quite disproportioned to the reaction, a few drops of rain developing suddenly a most destructive fever: it is also irregular, for this same cause may produce it in a slight degree in one subject, while in another, no diseased action is the result, though both have been equally exposed to the causes which produce the fever. This difference is said to be owing to a variety in the predisposition to the disease, for which we have no certain measure or means to appreciate, except by the result.

"In natural philosophy, astronomy, and chemistry, the case is different; there every thing may be weighed, numbered and measured, and all the steps of cause and effect appreciated with the utmost precision. Till the same accuracy is obtained in medicine, an air of uncertainty must be thrown over the whole science."

We fully concur in the last clause of the above paragraph, but, we do not see any sound reason for indulging the hope that, we shall ever obtain the "same accuracy in medicine," as obtains in other sciences. The complicated living body is subject to frequent variations in its secret economy—sometimes almost daily, and even oftener, as we so obviously see, in the case of individuals, noticed in the "introduction." If different individuals are exposed to the same remote and exciting causes, we may have in one a violent fever, in another a slight fever, &c., which presents a state of things so unstable and uncertain, that we cannot, agreeably to any known rules of philosophizing, explain or understand the true relation of cause and effect. And, indeed, by extending the view, sketched in the introduction, we shall see that this uncertainty, in the relation of cause and effect, is still more enveloped in doubt and mystery, than the writer would lead us to imagine.

Doctor Colhoun speaking of the relation of cause and effect, says the "same cause may produce it, (a fever) in a slight degree in one subject, while in another, no diseased action is the result, though both have been exposed to the causes, which produced the fever." And again "it is the property of the living body to take on a violent reaction, on a slight cause at one time, at others to retain the regular tenor of health, under every variety of exposure." Now we are not only bound to give our assent to this

obvious truth, but we deem it proper to extend the inquiry a little further. We may suppose the case of an individual whose system is charged with the miasm of fever, exhibiting the appearance of health—he is exposed to rain and escapes—another under similar circumstances takes a violent fever, another a slight fever. The first individual having been placed in a contaminated atmosphere, and also exposed to the rain with impunity, is overtaken a week or two afterwards with fever, without any visible exciting cause; or, having resisted the rain this week, another similar exposure may lead to fever the next. Again, the healthy relations of the system being disturbed by exposure to vicissitudes of weather free from miasm, may be overtaken, as the effect of the exposure, with a rheumatic affection, a catarrhal fever, a pleurisy, &c. In short, we might go on to show almost an endless diversity in the relation of cause and effect, and therefore although we fully concur with the writer in opinion, that this is the only philosophical method of managing the subject, we cannot divest ourselves of the belief that, we are not likely, very materially, to improve our etiological department till we have made new discoveries in pathology; and such indeed, as does not seem attainable. How shall we feel any assurance of success, when in addition to the difficulties we have already noticed, we admit the following indisputable state of facts, “in health and disease there is in the living body a regular series of changes, which follow each other in stages, each of which may present a vast variety of phenomena, whose varying features have not yet been recorded; thus, as in the healthy system, the periods of youth, maturity, and decline, succeed each other, each characterized by its appropriate susceptibilities; so in disease there is the same succession of stages,” to which we may add the idiosyncracies of every age. Nevertheless, we fully concur with doctor Potter in the supposition, “that no perfect, or even very useful system of nosology will ever be devised, unless it be predicated upon the natural and obvious division of the human body, into various departments, according to their difference of organization.” This being the true philosophy, let us endeavour to improve our practical knowledge, by a faithful investigation of causes and their effects, bearing in mind, that pathology is still extremely imperfect, and still worthy of our most anxious and zealous investigation.

We cannot close this part of our subject till we have briefly noticed the difficulty of studying the proper appreciation of the effects of medicines upon the system. Our author having



expressed himself, with his usual clearness on this topic, we have thought proper to cite a few of his remarks, which relate to the influence of medicine, and the appearances which may be mistaken for such influence—having touched upon the difficulty of tracing cause and effect, doctor Colhoun remarks:

"The difficulty occurs with regard to the proper appreciation of the effects of medicines upon the system; for the production and recovery from disease are regulated by the same principles. The system is a physical being, in which diseases are produced and removed by natural causes. Thus, if a medicine be given for the cure of a disease, from which the patient recovers immediately after the prescription, from the coincidence of the cause with the effect, the cure is attributed to the medicine.

"But as the powers of restoration of the system, may produce this effect as well as the remedy, it requires repeated observation to determine exactly, to which of these causes the operation of the remedy is owing; and this is one of the essential requisites in appreciating the true power of every cause. The mere succession of the cure after the remedy is not sufficient; to give an instance, the triangular bone, a part of the human skull, was once given with confidence for the cure of epilepsy, and great efficacy was ascribed to it, for a long series of years; at length, however, the phosphate of lime, of which this bone is principally composed, was determined to be entirely inert, and the virtue of the remedy was attributed to the horror excited, by the associations created by taking a medicine prepared from the dead body, and not to its physical qualities. It is upon this coincidence of recovery, with the exhibitions of medicines, that the impositions of empirical practitioners depend: thus the virtues of nostrums for hydrophobia, obtain circulation and confidence from the circumstance that it does not always follow the bite of a rabid animal."

It is very manifest that while doctor Colhoun is ably pointing out the uncertainty and difficulty of ascertaining the true relation of cause and effect, the absolute impossibility in most cases of measuring the force of causes—and the difficulty and uncertainty of distinguishing between the influence of particular medical agents and the ordinary restorative action of the living body—and notwithstanding we fully agree with him that this is the only road through which we may hope to approach the perfection of our science; we have been led to the conclusion, that notwithstanding the able manner in which the writer treats his subject almost every argument he advances to unveil the truth of his views, serves to convince us that absolute certainty is not attainable in the science of disease. It is not a more clear truth in theology that man is morally imperfect, than it is in physics that he is physically equally so. It is as obvious as the light of day, that no two systems are alike, and therefore, no two textures or tissues in different bodies, can be alike.—Some will possess more vigor in one tissue, some in

another, some possess a greater perfection of general relation and strength, others again possess a general frailty of structure not easily recognized and perhaps not at all, till the constitution is tried with some disease, when, it is found that a morbid train of diseased action having been excited by some common cause, as seen in a mere catarrhal affection, accompanied by a little neglect, or perhaps with the greatest care, we shall have the whole system speedily and irresistibly thrown into ruin. It will follow that while we continue our inquiries with zeal into causes and effects, and look particularly to the improvement of physiology and pathology, as our basis, we must bear in mind that medicine must forever depend much on experience. These reflections have induced us to cite some of doctor Colhoun's remarks upon Newton's rules of philosophy.

"The rules of philosophy laid down by Sir Isaac Newton, for the cultivation of natural philosophy, do not apply to the science of medicine, though often quoted with this view, viz. that similar effects proceed from the same or similar causes; and that we ought to admit of no other causes of natural effects, but such as are true, and sufficient to account for the phenomena.

"With regard to the first rule, that similar effects proceed from the same or similar causes, it is sufficient to examine the causes of any one disease to show that it will not apply to medicine. Thus, the asthma arises from impure and smoky air, from a cold and foggy atmosphere, from the vapour of lead or arsenic, from frequent catarrhal attacks, from water in the chest, aneurisms and other organic diseases. If therefore, in every case of asthma, we inferred that its causes were the same, we should be much mistaken. The same thing may be said of all other diseases."

We are pleased with the following important truths: "Though the history of the operation of medical causes is obscure, from their variety and their conflicting nature, yet by a proper examination of them, great triumphs have been achieved over the most dreadful maladies; and it is by observation, accurately appreciating the circumstances, on which the efficacy of remedies is decided, that the benefits of our science are most conspicuous. Thus for instance, with regard to the treatment by venesection of inflammatory diseases, the most common of all morbid affections: However hidden may be the seat of inflammation—in the eye, the head, the lungs, if its symptoms be present, this plan of treatment effectually removes it, and prevents, when judiciously administered, the formation of abscesses, which almost always end in the destruction of the organ, and if the organ be necessary to life, in the death of the individual. The removal of the inflammation is as absolutely connected with venesection as its cause, as the extinction of the spark when it falls upon snow."

This last clause, though approaching the truth, is not so certain as the comparison would suggest. As a general rule the result of *bloodletting*, in inflammatory diseases, is too manifest to be doubted; nevertheless some constitutions will suffer, treat them as you may.

We are among those who acknowledge that the views of Broussais have produced some improvement in our the-

rapia, and that every man should endeavour to make himself familiarly acquainted with the writings of this author, and others of the new French school; nevertheless, we think that a too close devotion to these views will lead us astray, in the treatment of the diseases of this country. He who trusts, in diseases of great force, to local bleeding to whatever extent, will find reason to repent its employment—he may totally fail in his object as regards the necessary depletion; and, often, when he does succeed, he will subject his patient to a remedy far more troublesome, less easily employed, and attended with greater expense. It cannot be doubted, that in many cases where thirty, forty, eighty, or even a far greater number of leeches are employed, less effect will be obtained than by a reasonable bleeding or two, from the arm, provided, under symptoms of high inflammation, the blood be drawn suddenly; that is from a large orifice—besides, who among our female patients, will prefer the necessary exposure of the abdomen, if the cubit will do even as well. We think the following notice of this practice by doctor Colhoun correct.

“In Paris there has arisen a new fancy, which fixes this imaginary being, intervening between the primary cause and the disease, in the intestines and stomach. Instead of the spasm of Cullen seated in the skin, and the excitability of Brown dispersed over the whole system, Broussais imagines the disease to consist of an inflamed state of the intestinal canal. As few persons die in the first attack of fever, it is difficult to prove this inflamed state of the lining membrane of this passage; and besides, appearances of inflammation occur without any other cause than the simple powers of the arteries, and therefore, any proof drawn from this source must be equivocal. Yelloly found that persons who had died from hanging, exhibited the mucous membranes of the intestines in a high state of apparent inflammation. Doctor Leeds and doctor Parrish, state that animals bled to death, exhibited the same appearances. As it has been found, too, in cases of death from other causes, it is certain that when discovered after fever, particularly after the first cause has ceased to operate, it cannot be considered in any other light than as an hypothesis. Doctor Phillip proved that the lungs and the stomach were covered with injected vessels, in animals who (which) died from dividing the *par vagum*. Mr. Brodie has shown, that arsenic applied to wounds, kills animals, but the stomach is found apparently inflamed, though no poison has been applied to it. These facts then, show, that an inflamed state of the capillaries occurs from other causes, and in other situations; and that it can by no means be regarded as the result of miasmata, though it is found among the morbid phenomena, which are discovered after death. It might with more propriety be considered as a result, than as a cause of that class of diseases; though even this is problematical, since it is discovered in subjects who have died suddenly from a state of the most perfect health. It is only therefore a concomitant of these affections, and must, when regarded as their cause, be considered as entirely hypothetical.”

Having thus far shown the leading features of the work under notice, and hinted at the prevailing cast of philosophy, which

seems, so far, chiefly intended to show the relation of cause and effect; how far that relation, as well as the nature of both, have been ascertained—and how we are on this view to appreciate our medical, and other remediate agents, we pass on to a very hasty notice of the body of the work.

Whatever we may think of nosology or systems in medicine, we think it clear, that the science stands mainly related to fever and inflammation, in the most extended sense of these words—however nearly these may resemble each other, universal consent has been given to their examination, under different names, and the mind naturally conceives of them as clearly distinguishable, though there is a great similarity, in some respects, between them. Whatever may be thought of this, certain it is, that nearly all our warfare with disease has some close relation to the cure of fever, or inflammation. This being the case, we are pleased to find that a lucid and strong character has been given to those parts of doctor Gregory's work, which treats of these states of disease. We deem the following paragraph a fine specimen of composition, and a clear and correct exposition of some of the more important truths, connected with medicine.

"Fever is the most important, because the most universal and the most fatal of all the morbid affections of which the human body is susceptible. Its presence characterises a great number of diseases; and in others, which for the most part are not attended by it, the physician must always be prepared to expect its occurrence. It is *that* by the presence or absence of which, all his views of treatment are to be regulated; whose rise, progress, and termination, he always watches with the utmost attention, and by the degree of which, he is enabled, in great measure, to estimate the danger in each particular case. Some idea may be formed of the great mortality of fevers from the statements of Sydenham, who calculated that two thirds of mankind die of acute diseases, properly so called, and two thirds of the remainder, of that lingering, febrile disease, consumption. Fever has proved a fertile theme, on which the ingenuity of physicians, in all ages, has been exerted; and a glance at the attention which it has received from every medical author, both ancient and modern, would be sufficient to impress upon any one the importance of the doctrines it embraces. How *difficult*, lastly, is the study of fever, may be inferred from this, that though so much has been written concerning it, there is no one subject in the whole circle of medical science, which still involves so many disputed points. In every view, the doctrine of fever must be considered of paramount importance, and they constitute, therefore, with great propriety, the foundation of all pathological reasoning."

Did our limits permit, we should be much pleased to enter into a critical analysis of our author's general doctrine of fever, in doing which we see much to commend. The views of our author are, in general, as remarkable for their conciseness as for their soundness. They have nevertheless been strengthened, and sometimes illustrated by the notes of doctor Colhoun and

Potter. We cannot, however, stop to enter into particulars, further than notice what we consider a most important, and, we think, neglected part of the subject of fever. The following from doctor Gregory's chapter, treating on "the principles of treatment in fever," with the very important amendment by doctor Colhoun, is replete with instruction.

"The necessity of attention to the nature of the prevailing *epidemic* is the last point which I would urge. Epidemic diseases are with very few exceptions, febrile; and it is a curious, but well ascertained fact, that the epidemics of particular seasons, acquire a particular character, the knowledge of which, assists very materially, in forming a judgment as to the treatment to be pursued in any individual case. Sydenham was among the first authors who directed their attention to the *epidemic character of seasons*. He pointed out, not only that febrile diseases prevailed in different years, but that the same form of febrile diseases assumed in different years different characters, and required corresponding changes of treatment. This important doctrine might be illustrated, not only by the phenomena of continued fevers, whose characters are so infinitely varied, but those also of agues, and the inflammatory affections of the thorax and abdomen. The principle is observable even in the phenomena of eruptive fevers, such as small-pox and measles, which are but little modified by the influence of other causes."

The doctrine contained in the last paragraph, is strictly true, and of great importance: But no doubt a part of the last clause is an over-sight of our author. To say, that *small-pox is but little modified by the influence of other causes*, than that of epidemic influence, is obviously a great error. No disease, within our recollection, is so much under the influence of "other causes"—a little animal food, a glass of wine, or any stimulant, given at the approach of the eruption, or even a warm atmosphere, will multiply the eruption a thousand fold. It is however strictly true, that small-pox is much under the influence of particular atmospherical constitutions. We have seen this so often verified in small-pox epidemics, that we hold it to be indisputable—so much is it the case, that the disease in one year not only shows an alarming mortality, but almost nothing can save any one from it, who has not had it, and even those who have had it, are not always exempt in these seasons; whereas, in other years, cases will be mild generally, and there is almost no disposition to extension of the disease. The following note of doctor Colhoun on the last quoted paragraph, is strictly just, and highly important, as well for its intrinsic worth, as on account of its being a much neglected subject.

"This is not only true with regard to fevers, but to all other diseases, during the prevalence of an epidemic; thus Stoll found that dropsy and abortion required depletion as well as the prevailing fevers and inflammations; the constitution of the year is necessary to be known, in order that

the remedies may be given of a strength adapted to the force of the disease, that weak medicines may not be given when strong are required, and vice versa. It has been believed, that more faith is to be put in a knowledge of the particular plan of treatment adapted to each epidemic, called a knowledge of the constitution of the year, derived from practice, than by attention to the particular symptoms of the diseases we are called to treat; and this really appears to be true, as all diseases partake of the reigning epidemic; catarrhs, abortions, hemorrhages, rheumatism, in the epidemic of 1788 at Vienna, were treated in the same way; in the yellow fever of 1793, the same was true; all diseases within the whole range of sea, island, and land, north of the line, during that year, were cured in the same manner; depletion was the sovereign remedy. In the year 1813-14, typhus prevailed to an alarming degree in the United States; stimulation was then the only means of cure, and many died, whatever might be their disease, who were treated by any other plan."

We here close our remarks upon the work before us on fever, and have to regret that we cannot, conformably with the limits of our intended notice, extend our remarks. Every practitioner will derive instruction from the observations of doctor Gregory—it embraces in a small compass, whatever is really important of the various theories which have flourished, from the days of Hippocrates to the present. Our author's practical deductions are not less satisfactory, in the present state of pathology, than his philosophy is clear and sound. In a word, we believe we may say with truth, that the work of doctor Gregory while it exhibits a masterly hand, in the condensation of knowledge, is in an especial manner, in the article on fevers, entitled to the character of being the most lucid epitome extant.

Doctor Gregory commences his observations upon inflammation by a chapter on the general doctrine on inflammation. We shall quote so much of this chapter as comes under the head of *universality of inflammation*, and bring to notice a few of the most interesting points which he presents, in the detail of this subject.

"Every organ and structure in the body is liable to inflammation; and, next to fever, this is the most important subject of inquiry in the wide range of medical science. It involves several considerations of a general nature, which it will be for the advantage of the student to begin by pointing out. There are certain phenomena, for instance, observed to attend it in its progress and decline, whatever be the structure attacked. The causes of inflammatory action are very much the same, whatever part of the body be its seat, the *symptoms*, *terminations*, and *causes* of inflammation, therefore constitute its fundamental doctrines, and this chapter will be devoted to their consideration. In the next, I shall advert to the varieties of inflammation, whether occasioned by differences of cause, or function, or texture of the part affected. Some remarks on the theory of inflammation, and the principles of its treatment, will conclude the inquiry into the general doctrine of acute inflammation. Much interest, however, has lately attached to *chronic* inflammation; and it may not be foreign to our purpose to offer, in conclusion, a few remarks on that state

of disease, such as may be sufficient to point out its principal pathological features."

In the above paragraph our author proposes pointing out the symptoms, terminations, and the causes of inflammations which are said to involve its fundamental doctrines. We think this has been done with an unusual degree of success, considering the small compass within which his observations have been confined. Doubtless on some points, a greater degree of amplification is necessary to the full illustration of inflammation; but this cannot be expected in a work merely elementary. The promise of our author to discuss the subject of inflammation in all its varieties, whether occasioned by differences of *cause, or function, or texture of the part affected* we think has been fully redeemed, so far as his plan admits. We would however, decidedly object to his reasoning upon what has been said of the sanguiferous, and lymphatic inflammations. "In France, a doctrine obtains, that chronic inflammation has its seat in two distinct orders of vessels, *sanguiferous*, and *lymphatic capillaris*; but as this piece of pathology has never been received in this country, it will not be necessary to inquire into its merits."

This is a very strange reason for objecting to a doctrine—that it has not been received in great Britain. But we are truly surprised to see so correct a reasoner, and able pathologist, as doctor Gregory, objecting to such an hypothesis, since he elsewhere advocates the doctrine of inflammation having a tendency to pursue similar textures, rather than pass promiscuously among them. "It is an important and well ascertained fact, that inflammation, in by far the greater proportion of cases, is confined to one texture, that it spreads along that one without affecting contiguous textures; and that almost all extensions of it from one tissue to another are to be viewed as casual exceptions to a general law." We have not room to discuss the subject, but if we admit this doctrine of peculiar influences in the several tissues, or textures, how shall we deny such a condition to the different systems of vessels, the offices of which are quite distinct. Is any thing more evident in disease than the fact, that inflammation is seen to exist with peculiar influences in the arterial, the venous, and lymphatic systems, partaking of the *general law* which our author has laid down?

In the chapter on chronic inflammation, our attention was particularly arrested by the following.—"The last effect of chronic inflammation which I shall notice is suppuration, and it is one of those which we have had most frequent occasion

to witness in practice. The fact of the formation of matter in cysts and other structures, without any evidence of previous inflammation, was well known to John Hunter, who had peculiar views of his own regarding it. But they are very unsatisfactory; and until further light is thrown upon the subject, it may not be improper to consider these collections of matter as the result of chronic inflammation." The latter clause of this paragraph we deem peculiarly worthy of notice. Much information has been furnished upon this subject by Mr. Abernethy, and Baron Boyer, the latter of whom treats of these abscesses under the head of cold abscess. The suggestion of doctor Gregory, we trust, will throw new light on this subject, which cannot but have a salutary influence upon our practice.

The notes added by doctor Colhoun upon inflammation, are in no small degree contributory to the usefulness of this article—we deem the following an important addition.

"The plan of treating slow and chronic inflammations by a slow and gradual action of the secretions, deserves more particular consideration than any other. Sir Astley Cooper considers that in chronic diseases some of the secretions are suppressed, and upon their restoration depends our success. Whether the reappearance of the secretion is the cause or the effect of the cure it is difficult to say. In chronic inflammation, he advised calomel and opium; the Pil. Hydr. comp. has, in his opinion, a more general action on the liver, and intestines, and if the secretion of these organs be restored, the local disease will disappear. This practice, which is nothing more nor less than the mercurial, so strenuously and generally recommended in this country, and more particularly by that excellent and great man, doctor Rush, deserves to stand pre-eminent in all the curative processes in these diseases, it is however, particularly strengthened by the experience and practice of such a man as Sir Astley Cooper, as his attention has been confined more to diseases of a local bearing upon the system. Confirmed thus by ample experience, drawn from local and general sources, it cannot be too much prized: The forms in which it is given by Sir Astley Cooper are the oxymuriat of mercury, dissolved in nitrous ether, and combined with the tincture of bark, or rhubarb, or sarsaparilla, taking care that the mercury be not given to excess, as it tends to increase, rather than diminish, the irritability! In children, Sir Astley recommends, in chronic diseases, the hydrarg. cum creta and rhubarb, or one grain of the oxymuriat of mercury dissolved in an ounce of tincture of bark, and given in doses of from half a dram to one dram, twice a day in water, according to the age of the patient. Calomel and rhubarb and the hydrargyrus cum creta and soda, are also considered as medicines of much value in the chronic diseases of children. If mercury be not advisable, rhubarb and carbonate of soda, or rhubarb, soda, and columbo, given often, and in small doses, he recommends very much; they operate as aperients, improve the digestion and appetite without exciting great irritation."

We must most decidedly object to the employment of tobacco as a remedy for inflammation. However respectable may



be the authority by which this recommendation is sustained, in addition to that of doctor Colhoun, we would enter our protest against a remedy so painful, uncertain, and to many constitutions, dangerous. If there be any value in the certain, and safe remedy of bloodletting, so ably pointed out, and so boldly, yet skilfully, applied by our author, there can seldom, if ever, be any necessity for, or propriety in the application of tobacco for the reduction of inflammation. The lancet, with the more ordinary auxiliaries, in the treatment of common inflammation, when skilfully applied, seldom calls for, or admits of, those narcotics which operate, principally, at least most directly, on the heart, often reducing its power to a dangerous extent. Notwithstanding our objections to this single article, we should do injustice were we to withhold our most decided approval of the valuable notes of doctor Colhoun, in this department of Gregory's *Elements*, which he has so judiciously filled up.

We intimated in the beginning of this notice, that we did not intend entering into a regular review of the work before us, and gave our reasons. We trust we have, however, extended our notice so far as to develope a sufficiency of the character of the *Elements*, to convince every one, capable of appreciating the sound philosophy, by which our author has been guided, that this work is one of no ordinary merit. We have extended our notice only so far as to exhibit a view of fevers and inflammations, the most important classes of disease—and, indeed, we might say without the limits of these, in their widest range, we have little to say or learn, at least as relates to therapeutics.

Candour compels us to acknowledge, that we decidedly differ with our author on the subject of contagion, in several instances; we decline, however, for the present, entering upon this subject. It is our intention, if spared for the task, to offer a dissertation upon epidemics, in which we shall necessarily be led to discuss this subject.

In a word, the present edition of doctor Gregory's *Elements* of the theory and practice of physic, as amended by the author, and the more copious notes of doctor Colhoun, in this than the former edition, is a work of great worth. We know of no other, all things considered, in which so general an exposition of sound principle, is exhibited within limits so short. Taken as a whole, we find a greater amount of the more modern doctrines than has been presented in the same compass—arranged in a manner to afford unusual facilities when emergencies call on the young practitioner, and an amount of citation, from

many of the better modern authorities, which cannot fail to direct him, advantageously, in his more general reading—nor can the general practitioner, whose practical duties leave him little time to read, find a more pleasant and instructive practical book.

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*The First Lines of the Practice of Surgery: designed as an introduction for students, and a concise book of reference for practitioners.* By SAMUEL COOPER, member of the Royal College of Surgeons, and of the Medical and Chirurgical Societies of London, &c. &c. With notes by ALEXANDER H. STEVENS, M. D. professor of Surgery in the University of New York, &c. &c. and additional Notes and an Appendix, by a physician of Philadelphia. Second American, from the fifth London edition, revised and corrected. With several new plates and wood cuts. In two volumes; Philadelphia, published by T. Desilver and H. Cowperthwait, 1828.

IT might be deemed supererogatory to recommend the work before us, to the profession of this country. It has already been too extensively circulated, and aided too many of our practitioners, to be offered as a work now brought forward soliciting public attention. But the present edition has come out "revised," by its author, and enriched by several "new chapters." When we add to this the important additions which have been made to the present American edition, by the American editors, we venture to assure the medical public, that this work will be found to afford the best compendium of surgery extant.

We do not think it necessary to present any thing in form of a review, believing as we do, that the general character of the work is too well known, to require any other notice than that of briefly pointing out some of the peculiarities, and what we believe to be important additions. To do this, little more will be necessary than to present to our readers, so much of the prefatory notice of the publishers, and the preface of the author as may serve to point out amendments.

The publishers tell us, that, "in presenting to the notice of the medical profession, a second American, from the last London edition, of the valuable work of Mr. Cooper, the publishers have spared no expense to render it, independent of its intrinsic merits, still more interesting to the American practitioner. To accomplish this end, the valuable suggestions and improvements which have emanated from distinguished American surgeons, as

Physick, Gibson, Mott, Stevens, Jameson, Dudley, Warren, Davidge, Barton, &c. have been introduced, and, in some instances, illustrated by additional copperplates. These, together with the valuable notes of professor Stevens, which are also contained in this edition, will give a fair view of what has been accomplished in this country within a few years." "In the appendix to the second volume, will be found accounts of doctor Rhea Barton's operation for anchylosis, Jameson's treatment of stricture of the esophagus, Matthews' stomach pump, (all accompanied with plates,) and several other subjects not alluded to by Mr. Cooper. In addition, several chapters, omitted by Mr. Cooper in this edition, and which are considered important, have been introduced."

The following extract is taken from the author's preface: "The favourable reception which this publication has met with, has encouraged me to revise the present edition with particular care. Several of the chapters in it, are entirely new, as will be immediately perceived, on comparing those on the diseases of the eye and its appendages, with the account of the same subjects in former editions. A chapter on amputation of the lower jaw is introduced; an operation of which I could find no satisfactory description in any general treatise on surgery, though its performance has now been repeatedly accomplished in France, America, Germany, and this kingdom, with a degree of success that affords convincing proof, in addition to many others, of the inestimable value of operative surgery, for the cure of the most intractable diseases."

In speaking of this new and momentous operation, Mr. Cooper very properly admonishes the younger practitioners from resorting to such a severe remedy, unless the necessity calling for it be sufficiently clear. He cautions against a too "greedy desire for fame;" and avers, that "there is more real merit in removing the necessity for the practice of any one severe operation already familiarly adopted, than in the invention and performance of a hundred new ones."

We think the foregoing extracts will serve to show the medical reader the improvements of the present edition over all others. We have carefully looked over the work, and we find all that has been promised by the publishers, and the author, has been fully realized. When we take into account the merits of this work of Mr. Cooper, add his revision, the notes of doctor Stevens, &c. we unhesitatingly express, as our opinion, that no other work of the same extent, can be found, which contains so much valuable surgical knowledge in so small a com-

pass. We do not however wish to be understood as approving of every thing in this work.

Finally, we should do injustice to the anonymous, but talented Philadelphia editor, were we to withhold our commendation for the able and satisfactory manner in which he has collected, and embodied much valuable information, from the writings of American practitioners. Such being the amount of our judgment, on the edition of Cooper's first lines now before us, we shall conclude by saying; that every surgeon, who does not possess it, must have a *void* in his library till he is in possession of the present edition.

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*The Eclectic and general Dispensatory: comprehending a system of Pharmacy, Materia Medica, the formulæ of the London, Edinburg, and Dublin Pharmacopeias, prescriptions of many eminent physicians, and receipts for the most common empirical medicines collated from the best authorities. By an American physician. Philadelphia, Towar and Hogan, 255, Market street. Mifflin and Parry, printers.*

**T**HE prevailing aim or object of the above named work is clearly set forth in the following brief preface—"The object of this work (says the author) is to give to the student a quantity of valuable matter, in an elementary form as far as regards the department of pharmacy, and to combine materials of a highly useful nature for the benefit of the physician, in the history of the articles of the materia medica, both foreign and domestic. While the formulæ of regular practice, as detailed in the Dispensatories of the London, Edinburg and Dublin, furnish an extended view of the legitimate implements used in our art, those of the empiric are also given, in order to divest of mystery those pernicious engines, by which so much mischief is done, and thus limit the extension of a species of crime, which unites in itself both robbery and murder, and which now more than ever threatens the greatest injury to the people. All the materials from foreign sources which could add to its usefulness, have been freely used in compiling the work."

We have directed our examination of the above work with especial reference to the several points set forth in the preface, and we have no hesitation in saying, that the objects, held up

to view, have been fully attained by the author of the *Eclectic Dispensatory*.

It would neither be necessary nor profitable, to enter into a detailed survey of a work which embraces so much diversity of material, and of philosophy. But we deem it proper to give our readers some idea of the nature and character of the work, by briefly pointing out some of its principal divisions; to which we shall add a few remarks.

In pursuing this design, we observe eighty pages, of closely printed brevier in double columns, devoted to the "*Elements of Pharmacy*." In this division we have, first, rules for the "collection and preservation of simples"—secondly, some account of "the general agents influencing pharmaceutical combinations." In this subdivision we have a full exposition of the various principles or laws governing bodies in their chemical relations, and, also, an arrangement of the various articles which may become the subjects of pharmaceutical experiment or application, extending alike to what has stood the test of time; and to articles of late discovery, or adoption into medical practice. A third subdivision embraces "pharmaceutical operations, and apparatus"—in this subdivision, we have ample directions respecting the various materials, and manipulations, which are essential to the practical pharmacist. A fifth subdivision contains ample tables of chemical affinities, &c. &c.

The second division treats on the subject of *Materia Medica*. We find about 220 pages devoted to this department of medical knowledge, and the author after pointing out, the usual methods adopted in the construction of works upon *materia medica*, gives the following brief outline of his own plan of arrangement, &c.—"This part of our work, therefore, contains the lists of the *materia medica* of the pharmacopœias issued by the London, the Edinburg, and the Dublin colleges; and subjoined to the name of each of the substances supplied by the vegetable and the animal kingdoms, a description of the plant or the animal, which yields the remedy, is given in the language and after the method of natural history. The chemical characters, as far as they are known, of these matters, are also stated; and the analysis of such remedies as are more immediately the objects of chemical investigation, with the medical properties and uses of all of them, are detailed; so as to afford every useful information regarding them, in a form, the most convenient for practical reference."

We do not deem it necessary to enter into any particular description of this part of the work under notice, but wish

merely to say, that it is compiled on the alphabetical arrangement of the subject, which, we with our author, believe to be the better method. The author after speaking of other methods says, "this mode, (the alphabetical,) although it be not so scientific, yet is much less liable to objections than many of the other modes that have been occasionally adopted; as the best of these have been, generally, too much modified by the prevailing theoretical doctrines of the day, which unfortunately for medical science, have hitherto had too slight a foundation on truth to secure their permanence."

The fourth division contains a very ample compilation of the various "*Preparations, and Compounds*," to be found in the several European dispensaries already named, embracing a full list of the old and new names of simples and compounds.

The list of *preparations and compounds* is followed by an appendix treating upon the properties of common water; and a brief notice of mineral waters in general, together with complete "*Toxicological Tables*, in which are exhibited at one view, the symptoms, treatment, and modes of detecting the various *poisons*, mineral, vegetable, and animal; according to the latest experiments and observations. By a member of the Royal college of surgeons, London. In this appendix No. 1. we have also some observations upon the "art of prescribing medicines," to which we attach much importance.

In an Appendix No. 2. we have an useful list of formulæ, which were favourite prescriptions of respectable physicians, together with a pretty full account of the manner of preparation, of the several nostrums or patented medicines which have, for a long course of years, been extensively vended through the credulity of the *weak* or infirm, under the sanction of governments, all of which, in modern times, have thought proper to legalize this species of cheaterly, and thus, as far as authority can extend over public opinion, give a decided preference to the daring quack over the regular bred *dispenser* of medicaments. But public opinion giving free scope to venders of these nostrums, it is important that the physician should know their composition—in this respect he will find a knowledge of the more common patent medicines of considerable importance.

Upon the whole, we have been led to believe that the *Eclectic Dispensatory* is a work of much utility; that it is alike creditable to its author, and publishers, as far as they are respectively concerned—since, whether we look at the plan, or the ability with which this work is compiled; or, the amount of matter, and manner of getting up the book, we see most obviously a dispo-

sition on all hands to condense a vast amount of important knowledge into the smallest compass at all compatible with convenience.

In the favourable opinion of the work, which we have expressed, we are strongly supported by our friend doctor Jennings, who, after more ample opportunity of examination than has fallen in our way, speaks of it in terms of high commendation, and, who, has during the last, and present winter, recommended this work to the especial notice of his classes, in his professional capacity, as lecturer on materia medica and therapeutics, in the Washington Medical College of Baltimore.

*Selecta with Remarks.*

## MEDICAL.

*An account of the Morbid Appearances exhibited on Dissection in Disorders of the Trachea, Lungs, and Heart, with Pathological Observations, to which a comparison of the Symptoms with the Morbid Changes has given rise. By THOMAS MILLS, M. D. Honorary Fellow of the King and Queen's College of Physicians. 8vo. pp. 302. 1829. Taken from Johnson's Journal for July, 1829. The review of this work meeting our approbation, we have copied it entire.*

THE attention which we have paid to the writings of doctor Mills, (says doctor Johnson) proves our estimation of their merits, but we cannot help thinking, that like most of the Continental pathologists, he over-rates the value of morbid anatomy, in the study of diseases.

"The further I advance in this investigation, the more fully I am convinced that *morbid anatomy is the principal source of useful practical knowledge*; this enables us to trace the connexion between the sign and the morbid change; between cause and effect:—the cultivation of this branch can alone exalt medicine to the dignity of science."

We believe it is the "principal source" of practical knowledge—but we are by no means convinced that "the cultivation of this branch can *alone* exalt medicine to the dignity of science." The farther we advance, and the more we see of diseases, the less hope do we entertain that medicine can even be a *science* in the common acceptation of that word. Where the same causes produce opposite effects—where we find the same symptoms with, and without, any organic change, how can we ever expect the certainty of *science* in physic? If indeed morbid anatomy always enabled us to "trace the connexion between the sign and the morbid change," we would fall down and worship it as the god of our idolatry;—but, knowing as we do, that in nine tenths of the diseases to which we are called, it is impossible to trace this connexion between symptoms and structural changes,—for the good reason that either no morbid change exists, or, if it exists, it is incognizable by the senses—knowing this, we say, we can only look upon morbid anatomy as one of the paths that lead to the knowledge of diseases, and that by far the easiest one to tread. That morbid anatomy is not a *sine qua non*, is proved by many examples of good practitioners who knew hardly any thing of this branch. We need only instance Sydenham, who never alludes to the subject in his writings. In making these observations, we do not mean to deny that morbid anatomy lets in a flood of light on the causes as well as the effects of diseases—for all changes of structure must be regarded as the effects of previous disease, though they, in their turn, become the causes of other and still more serious maladies. When we consider how little power we have over the organic changes, (with the exception of mere inflammation) and the functional disturbances consequent on these changes, we have great need to watch the causes of the original disorders—the disorders themselves—as well as their consequences, the morbid structure. On these last doctor Mills and the continental physicians seem to keep their eyes somewhat too steadily fixed—and yet the very existence of these "morbid changes" is a



melancholy satire on medicine—for it is the great object, the great duty of the physician to cure *disorder*, and thus prevent *disease*. But to our author.

[*Remarks.* We do not recollect whether doctor Rush has made the distinction between “disorder” and “disease,” in any part of his works, but we well recollect, that we have heard objections made to his having attempted to point out such distinction, in his lectures, many years ago. We think it a distinction of considerable importance. Disorder may consist of mere disproportion of excitement; disease has superadded a morbid condition.

It may justly be asked, is there any thing more than an able illustration of the principles of Rush in the writings of doctor Mills? We consider his observations upon inflammatory disease highly important, but there is no principle involved, that is not familiar to those, who are familiar with the writings of doctor Rush.

These trans-Atlantic corroborations are nevertheless highly important—they are doubly acceptable, after so long, and almost total desertion, in Great Britain, of the antiphlogistic practice of Sydenham. It was at the fountains of this great physician, that Rush most freely drank; and having therefrom established a reservoir inexhaustible, the world of medicine has luxuriantly flourished, from the irrigations sent abroad by him, upon the budding scions of Sydenham.] Editor.

Doctor Mills observes, that a review of the cases and dissections detailed in this volume, leads him to the conclusion that the diseases, whether of the trachea, lungs, or heart, were of an inflammatory nature—and hence the danger of treating them, or any of them, as nervous or spasmodic.

“But let me not be misunderstood;—my object is the discovery of truth, and, while from facts I am compelled to maintain the inflammatory character of these diseases, I do not say that every disorder of the trachea, lungs or heart, is inflammatory, nor am I an advocate for indiscriminate blood-letting; on the contrary, I would here repeat what I have already stated with respect to fever; in some cases it is useless or injurious, while others only require the use of diluents, aperients, a low regimen and confinement. In fine, though these diseases are essentially inflammatory, and though a rational mode of treatment must therefore be based on this principle, yet, in order to give efficiency to our practice, it is necessary to *individualize*,—that is, to consider the particulars of every case, as the age, sex, and constitution; the habits and previous ailments of the individual affected; moreover, to take into account the nature of the season and climate; of the prevailing epidemic, if any exist, and of the various influence, whether moral or physical, by which the patient is surrounded. Thus, while it is necessary to *generalize*, in order to practise medicine scientifically; to practise it successfully, it is necessary to *individualize*.”

The work is divided into three portions—the first and shortest embracing cynanche trachealis or croup. To this we shall now direct attention.

### 1. *Cynanche Trachealis.*

There is no disease that demands prompter treatment than this. Dangerous in its tendency and rapid in its progress, it may prove fatal in a day,

or even in a few hours. Doctor M. has repeatedly met with cases of *cynanche trachealis* unaccompanied by that croupy noise in respiration by which it is usually distinguished. The practitioner, therefore, who waits for this supposed diagnostic symptom, may commit a fatal error.

"As far as my experience goes there is no such disease as spasmodic croup, or croup unattended by inflammation—the contrary opinion appears to me pregnant with danger, as it leads the physician to trust solely to the employment of camphor, opiates, *assafetida*, castor and other medicines called antispasmodics."

### *Cases.*

1. The first case related by doctor Mills, was one of acute *cyn. trach.* complicated with *cynanche tonsil.* supervening on measles. The patient was a boy, five years of age, who, after four or five days of feverish symptoms, shewed the morbillous eruption, attended with a husky cough, which became alarming by being sometimes accompanied by a sense of suffocation and a croupy noise. The fever ran high—he was bled to six ounces—and had a black draught. *Second Day.* The bleeding gave some relief—but the suffocating cough frequently returned. Fifteen leeches were applied to the fauces (as there was some difficulty of deglutition)—the warm bath was employed—and an emetic was exhibited. *Third Day.* The symptoms not materially relieved. A blister to the throat—calomel and James's powder every three hours. *Fourth Day.* Countenance swollen and livid—eyes staring—delirium, stupor, jactitation, pulse 130, skin hot and dry, speech inarticulate, appearance of strangulation, abdomen tense. *Venesectio ad ℥viij*—emetio-cathartic mixture. The bleeding produced instantaneous relief, and from this time the patient went on to convalescence.

### *Comment.*

"We have a case of *Cynanche Trachealis* or Croup, accompanied by *cynanche tonsillaris*, which occurred during the eruptive state of measles—must not this be ascribed to the inflammatory action of the vessels of the cutis having been communicated to the fauces, and thence to the larynx and trachea? The eruption was copious and the fever high; suffocation was twice threatened, and as often relieved by bloodletting, cathartics and emetics, and by the application of leeches and blisters near to the seat of disease. Calomel and antimonial powder were prescribed, and fomentations were employed without any obvious benefit."

2. The second case which we shall select (being the third in the work) affords a melancholy proof of the rapid march of this disease.

"Miss W.—. *æt.* 6, a lively, healthy child, was this morning attacked with a troublesome croupy cough, attended with pain in the region of the trachea, with difficulty of breathing, fever, loss of appetite, languor and oppression; as the day advanced the breathing became more laborious, and the cough more frequent—the expectoration was scanty and mucous, the lips became livid, the face was alternately darkly flushed or deadly pale, the eye lost its lustre—about six o'clock P. M. when I was called on, the fits of coughing had become more violent and the respiration more op-

pressed, at times the child cried out that she was suffocating, and with an anxious and wild expression of countenance suddenly applied the hand to the neck.

"Death took place at ten o'clock, P. M. about twelve hours from the commencement of the attack.

"DISSECTION BY MR. M'NAMARA, ASSISTED BY MR. AUCHINCLECK. *April 1, 1823.* The inferior portion of the trachea was covered with a thin cream-coloured purulent matter, its superior portion was completely obstructed by coagulable lymph, part of which had begun to put on the appearance of an adventitious membrane, the entire mucous coat had a preternaturally vascular appearance.

"Bronchiz, lungs and heart, sound."

Doctor Mills thinks, that had an emeto-cathartic mixture been given, and bloodletting employed early, together with the other antiphlogistic measures, this child might have been saved. Nothing was administered but a little castor oil before doctor M. was called in, and then deglutition was impracticable. The dissection is satisfactory as elucidating the nature and seat of the disease.

3. The third case was one of chronic croup cured by the antimonial ointment. The patient was eight years of age, who complained of a feeling of pins and needles sticking in his throat, with hoarseness, cough, difficulty of breathing and palpitation. The pulse was frequent and irregular, the face bloated, the eyes prominent and suffused. These symptoms had continued more or less, for some weeks, but the croupy paroxysms were becoming more severe. Emetics, cathartics, and the hot bath had been employed with some advantage. Doctor Mills, however, prescribed leeches to the throat, and two grains of calomel every four hours. Considerable relief followed; and on the third day afterwards, there was a tremendous paroxysm, requiring an emetic and a tepid bath. Notwithstanding the depletory system, together with mercury, was fully employed for several weeks, the boy was harassed with dangerous paroxysms of croup. At length a crop of pustules was brought out on the throat by the antimonial ointment, and the discharge kept up, by repetitions of the same. After this the boy had but one slight paroxysm and went on to convalescence. The complaint lasted, in all, several months.

"In the mode of treatment" says doctor M. "different remedies were employed at different periods; the most effectual during the paroxysm were bloodletting, emeto-cathartics, and the hot bath—active aperients were often required, and they always proved serviceable; from a combination of calomel and opium, much benefit was also derived; it was, however to the use of the tartar emetic ointment that the disease finally gave way; this was applied to the external fauces, and the pustular eruption thus produced was great, and the subsequent discharge, copious; so great indeed was the inflammation and ulceration, that it became necessary to poultice for several days the external fauces: since the application of the ointment there has been no return of the complaint, whereas, previously, it returned every fortnight or three weeks:—it would appear then, as far at least as regards the case before us, that the counter-stimulus, and the

long continued discharge thus excited, made a permanent impression on the disease, and totally changed the morbid condition and mode of acting of the internal vessels, which consequently resumed their wonted healthy actions,—now, as in three other similar instances, the same favourable result followed the use of this unguent, it may deservedly be ranked among the most valuable remedies for the cure of chronic croup, at the same time I am ready to acknowledge from experience, that like all others, it must, for obvious reasons, sometimes fail to produce the desired effect.”

In the commentary on another case which we do not deem it necessary to detail, doctor M. observes that a spasm of the larynx or trachea, or of both, accompanies most cases of croup, and, in many instances, the danger is in proportion to its duration, and the degree of its intensity. “The spasms are induced by inflammation of the lining membrane of the wind-pipe, and then mildness or violence commonly depends on its degree and extent.”

“To this general rule, however, there are exceptions, for in one post mortem examination, at which I was present, the marks of inflammation were not unusually striking, yet the spasms were urgent, and apparently caused the death of the patient.

“In the case now before us the spasms were violent, and often threatened suffocation;—that they were caused by inflammation may be inferred from the good effects of evacuants and counter irritants.”

This portion of the volume closes with a case of cynanche maligna, which gives doctor Mills an opportunity of advocating strong and active depletion. The sufferer in this case was a young lad 14 years of age, who was attacked with superficial ulceration of the tonsil, after exposure to cold, together with low fever. A mild aperient was prescribed, and not much attention was paid to the complaint; but the ulceration gradually spread throughout the fauces, and assumed a livid appearance, with irregular edges, accompanied by fever, loss of appetite, and difficulty of swallowing. This was about the sixth or seventh day of the attack. On the ninth, there was acute pain under the sternum, with cough and difficulty of breathing—no amendment having taken place in the character of the ulcer.

“Ten ounces of blood were abstracted from the arm, the bark and wine were omitted, and a saline purgative was exhibited; on the day following, the tenth of his illness, the chest was considerably relieved, the febrile symptoms gradually subsided, and from this period the ulceration in the tonsils began to assume a more healthy aspect; rubefacients were applied to the external fauces, the borax gargle was continued, and the aperient was frequently administered: under this treatment and a low regimen, the patient was able to leave his room on the 18th day of the attack.”

It is dangerous to draw inferences from insulated cases; but as far as an individual instance can be depended on, we agree with doctor Mills that the amelioration in the appearance of the ulcer in the above case, after bleeding, would lead to the inference, “that under certain circumstances and in peculiar constitutions, cynanche maligna may demand the employment of bloodletting and aperients.” Doctor M. properly adds, that in

old and debilitated constitutions, or at the close of tedious illness an opposite treatment will generally be necessary, viz. bark, wine, cordials, and nutritious diet—always remembering to keep the bowels open—and to apply leeches and blisters to the throat.

## II. *Diseases of the Lungs.*

Notwithstanding all that has been written of late, on pulmonary diseases, there will be found many important observations and facts in this part of our author's work. Doctor Mills is a practical man—and all facts recorded by such men are valuable.

On reviewing the cases and dissections contained in this section of the work, our author finds that ossification of the cartilages of the ribs, and chronic inflammation of the heart and lining membrane of the bronchia, were frequently detected in the bodies of those who had laboured under asthma—and that a collection of serous fluid in the pericardium often accompanied an obstruction of the lungs, even where the pericardium or heart was not diseased.

"In more than two or three cases where the right lung was extensively diseased, it has been discovered that pulmonary symptoms were mistaken for hepatic; and, in one instance, a disorder of the colon was mistaken for a disease of the liver. The detection of these errors is highly important; it will induce us to pause a little before we decide on the seat or nature of the complaint, or prescribe a medicine which may possibly prove injurious."

It would appear, indeed, that doctor Philip's observations on hepatic and dyspeptic phthisis have blinded a great portion of practitioners to the existence of true pulmonary disease. Scarcely a day passes without seeing people labouring under organic disease of the lungs, and yet under treatment for hepatitis or dyspepsia. If there be pain in the right side of the chest, it matters not in what part of the side, no doubt is entertained respecting the liver being the seat of the disease, and mercury is resorted to at once. If there be cough—it is stomach cough. If there be purulent expectoration—it is a sympathetic affection of the mucous membrane of the lungs, which requires no treatment, as the original malady is seated at a distance and must there be attacked! Meanwhile the disease goes on to a fatal termination, and if dissection shews the lungs disorganized and the liversound, it was still hepatic phthisis, because doctor Philip has clearly shewn that the original disease disappears in the progress of the symptomatic one, and consequently is not to be seen post mortem. We shall now proceed to some cases.

**CASE 1.** This was a gentleman aged 42, corpulent, intemperate, and with an habitual appetite that was almost insatiable. When doctor M. saw him he was complaining of cough and dyspnoea, with pain and a sense of weight in the left side, stretching towards the back. Pulse 104—tongue furred, yellow,—thirst, restlessness. He was bled, blistered, purged; but four days afterwards, we find him with the same pain in the side—with dyspnoea, palpitation, cough, and purulent expectoration. He was again bled, blistered, and purged, with some trifling relief, and then sent to the country, where he did not stay long. In a few days he return-

ed, complaining of "spasm of the lungs and legs," with numbness and weakness of the lower extremities. In about a fortnight he died.

*Dissection.* The colon was five inches in diameter, and its coats thickened. The stomach was five times its natural size, descending below the umbilicus. The spleen was of pulpy softness. Coats of the bladder thickened. Lungs hepatised in some places—bronchia lined with a thickish yellow fluid—some calculous concretions in the right lung—a whitish tumour, larger than an orange, of a semi-cartilaginous texture, containing numerous cells and tubercles filled with purulent matter, in the left lung. Four ounces of fluid in the pericardium—and about eight ounces in each side of the chest.

**CASE 2.—VIOLENT ASTHMA.**—Mr. S.—, at 54, complains of cough, dyspnoea, palpitation of the heart, pain in the sternum, restlessness and extreme languor; tongue foul and yellow, pulse 110, strong; skin hot and moist: expectoration copious and purulent: bowels open; urine turbid. This gentleman is of a delicate frame, is sallow and emaciated, and, during the last ten years has been subject to frequent and violent fits of asthma, which terminate by copious gross expectoration."

This was on the second of December, and the patient was bled to eight ounces. Next day he was nearly in the same state, and was purged and blistered. We need not go into the diurnal details. The patient died on the 23d of the same month.

*Dissection.* "Between the tunica arachnoidea and pia mater, a serous effusion, is observable over the entire surface of the brain.

"The substance of the brain when cut into exhibits numerous red points.

"Nearly two ounces of a watery fluid are found in the ventricles.

"A quantity of serous fluid is discovered at the base of the cranium.

"Thorax, cartilages of the ribs generally ossified.

"Lungs, on both sides, adherent to the walls of the chest and to the mediastinum; and, on the left side, to the pericardium.

"Three small portions of calculous matter are found in the middle lobe of the right lung.

"No abscess nor ulceration is discoverable in any part of either lung; but there is a quantity of frothy purulent matter in the cells of the bronchiz; the lining membrane of these cells is highly vascular.

"Pericardium,—contains about three drams of serous fluid; the internal surface of this membrane is rough, from a number of minute sabulous whitish particles dispersed through its texture.

"Heart,—substance of, natural, but its lining membrane is opaque in different points.

"The opening of the coronary vein is larger than natural.

"Liver,—natural in size and texture, but paler than usual.

"Gall-bladder, contains a thin olive-coloured bile.

**"COMMENT.**

"In this instance such was the violence of the pulmonary symptoms, that hydrocephalus, the immediate cause of death, was overlooked by the physicians in consultation, and the fatal event was supposed, previously to the

dissection, to have been produced by a disease of the heart and lungs; a repetition of such mistakes can only be prevented by an examination of the body after death; this laid open the nature of the complaint, and showed, that our attention should have been directed to symptoms which, though only supervening to the original disorder, were the precursors of the death of the patient.

"Slight headach, confusion of ideas, and a sense of fulness in the head were complained of throughout the whole attack: a few days before death, the expectoration diminished, this was followed by high delirium, stupor, and the frequent application of the hand to the head, symptoms indicative of cerebral derangement, and produced by the accumulation of blood and serum in this organ; and, was not this accumulation the effect of congestion in the lungs, which, by obstructing the circulation, impeded the free return of blood from the head?"

It appears that this gentleman had frequently recovered from similar attacks of the chest before—hence our author concludes that recovery might probably have taken place in the present instance, had not hydrocephalus supervened.

CASE 3. We shall notice this case, as it illustrates some remarks which we made a page or two back. The patient was a young lady 10 years of age, who, in January 1817, first complained of fugitive pains in the left side of the thorax and corresponding arm, accompanied by palpitation and sense of stricture about the heart, slight cough, and fever. These symptoms yielded to depletory measures—recurred, and yielded—till at length, the attacks were frequent.

"In January and February, 1818, the pain in the region of the heart was often acute, and always attended with a sense of suffocation, palpitation, and at times, with purulent expectoration and hœmoptysis. During the last three months the dyspnœa was permanent, often orthopnœa, and a sense of suffocation, accompanied by pains in the arms and shoulders; there were anasarca swellings of the upper and lower extremities, and of the face; the tongue was aphthous, pains were frequently felt in the bowels, attended by a mucous diarrhœa; delirium and convulsions closed the scene.

"May 30th, 1818. *Dissection by Mr. Barker.* There is an elevation of the central portion of four of the ribs on the left side of the thorax, and on this side the pleura pulmonalis and costalis, are adherent.

"The left lung is filled with tubercles and ulcers of different sizes, colours, and figures. Some of the tubercles contain a substance of a cheesy nature, others of a curdy or purulent, the majority are developed in distinct cysts.

"Pericardium, considerably thickened; there is a deposition of coagulable lymph upon its outer surface, which is firmly attached to the diaphragm, in its cavity are found about six drams of a serous fluid.

"The heart is enlarged, and its surface highly vascular.

"The pleura, the left lung, the pericardium and the heart form one crude diseased mass.

"The right lung is less diseased than the left, but it contains two vomica; on this side, the pleuras are closely adherent.

"Liver,—left lobe, enlarged and stretches into the left hypochondre; structure natural.

"Stomach,—two large red patches, irregular in their size are found upon its lining membrane; one of which is situated between the cardiac and pyloric orifices.

"Intestines,—several portions of the small intestines are thickened, and highly vascular, and on their mucous surface is observed puriform matter mixed with blood.

"Mesenteric glands,—enlarged, and some contain a cheesy and some a fatty matter."

We are informed by doctor Mills, that at the commencement of this young lady's illness, and for some time afterwards, 'her complaint was considered hepatic, and mercurials were repeatedly exhibited; the pulmonary affection was regarded as secondary, and would, it was supposed, yield to the action of the remedies administered for the removal of the primary malady." Doctor M. avers that chronic inflammation of the bowels was here mistaken for disorder of the liver, and that "this mistake led to the use of medicines calculated to develop tubercles in the lungs, or inflame those which might otherwise have lain dormant."

It is a melancholy reflection, and one calculated to lower our pride, that medicine should sometimes be the cause of mortal maladies when injudiciously administered for diseases not in themselves *fatal*. Yet we fear this is too often the case. Such a consideration ought to teach us to view with more charity and patience the ridiculed practice of some of our continental brethren—the "medicine expectante." Cases like that detailed by doctor Mills, afford our neighbours fair game for retaliation. It is not, however, so much by activity of remedies that mischief is produced, where symptoms are urgent, as by mistakes in diagnosis. The young lady's case would hardly have been made worse by leeches, farinaceous food, and such means as are calculated to reduce inflammation, either in the chest or abdomen. But a false diagnosis being formed, wrong remedies were administered—and, at all events, the thoracic disease was neglected when it ought to have been the "all absorbing question." The study of auscultation will tend to correct this fatal error of diagnosis in future.

CASE 4. Passing over two or three cases of no interest, we come to another instance of phthisis, mistaken in its early stage for hepatic affection. We shall glance rapidly over the particulars. Miss D. aged 21, had been ill fifteen months. Pain in the right hypochondrium had been (as was said) the first symptom, to which succeeded cough, palpitation, dyspnoea, and hectic fever. "Two country physicians considering this a case of diseased liver, have given calomel in large quantity, and recommended a low diet, and latterly digitalis to abate the hectic." When Dr. M. was called in, there were cough, dyspnoea, perspirations, pains in both hypochondria, frequent and feeble pulse, emaciation, purulent expectoration. We need not detail the subsequent symptoms or treatment. The patient died in a couple of months, when the left lung was found tuberculous and filled with purulent or cheesy matter—right lung studded with tubercles loaded with pus and cheesy matter. The pericardium contained six ounces of water. The great lobe of the liver slightly adhered posteriorly to the parietes of the abdomen and descended rather lower than natural; but was not altered in color or consistence. There was no other morbid structure in the abdomen.



"The dissection was instructive, as it served to correct an erroneous idea entertained with regard to the seat and nature of the complaint which was considered by some eminent practitioners as hepatic, and mercury was repeatedly administered, a medicine highly injurious in scrofula of the lungs.

"The pain felt in the right hyochondre gave rise to the opinion that the liver was the organ principally engaged, and the slight adhesion discovered between its convex portion, and the parietes of the abdomen indicated a low degree of inflammation that had subsisted at an early period of the attack, but the substance of the liver was sound, and the pain in the right side continued for months, this therefore must have depended on the disordered condition of the right lung."

Two or three other cases and dissections are given, all showing the fatal mistakes of practitioners on this particular point; but we shall pass them over. Our author gives us a kind of rambling essay on "*LYMPHATIC PHTHISIS*"—which is no other than what we call scrofulous or tubercular phthisis—epithets which he thinks objectionable, "because associated with the idea of debility, or of some undefined acrimony of the fluids," and thus giving rise to a "practice wavering and injurious."

"Were I allowed to form an opinion on this subject, grounded on observation and experience, I would say that the scrofulous tubercles of the lungs are lymphatic vessels, or a congeries of lymphatic vessels called glands in a state of inflammation and suppuration, consequently that the epithet lymphatic would be more appropriate, as it at once expresses the seat and nature of the disorder, and directs the practitioner to a rational mode of treatment."

We confess that we do not see so very clearly how a certainty of the fact, that "scrofulous tubercles of the lungs were lymphatic vessels in a state of inflammation and suppuration," would lead us to a rational, or, at all events, to a successful practice. The inflammatory nature of phthisis, in its early stage, has been long advocated—and doubtless is true—but what have we gained by this knowledge when tubercles have arrived at suppuration? Very little, we fear! We shall, however, allow Dr. Mills to speak for himself.

"Obscure in its origin and slow in its progress, lymphatic phthisis is a disease alike insidious and dangerous, and often proceeds to an alarming height without exciting any serious apprehension; in our inquiry, therefore, we should not only take into account the present state but the past history of the patient, such as the healthy or diseased condition of the glands of the neck, axilla and mesentery, the effect of dentition, vaccination, hooping-cough, scarlatina, measles, &c. and never lose sight of the state of the digestive and respiratory organs, for it is clear that visceral obstructions, by giving rise to congestion, irritation and inflammation of the lymphatic system frequently cause lymphatic or tubercular phthisis.

"We daily witness swelling, hardness, pain and redness of the lymphatic glands of the groin, in consequence of the irritation induced by blennorrhagia; the same symptoms arise from the irritation of a chancre on the pe-

nis or scrotum, or from the absorption of the syphilitic virus. Inflammation of the lymphatic glands of the upper parts of the legs, thighs, and arms, proceeds from injuries or diseases of the feet and hands; the cervical glands often swell from the application of blisters to the nucha or head, and the axillary, from disorders of the mammae, &c.; these facts are worthy of consideration, inasmuch as they show the excitability of the lymphatics, and the necessity of keeping this system of vessels in a healthy condition, for it is well known that pulmonary consumption is often preceded by swellings and inflammation of the lymphatic vessels and glands of the neck, axilla or thorax; a principal object therefore in the treatment of patients of irritable habits, or of those born of consumptive parents, is to diminish or remove this irritability, by giving tone to the constitution and preserving in a healthy condition the different organs and functions of life. Among the various remedies employed for this purpose, I shall now only observe, that a light, cooling, and moderately nutritious diet is preferable to a full diet of animal food, jellies, soups, &c.; that wine is, for the most part, unnecessary, and often injurious by its stimulating qualities, and that the best remedies are such as are calculated to promote a healthy state of the secretions, particularly of the abdominal viscera.

"I have stated that lymphatic phthisis is obscure in its origin, and of slow growth, there are symptoms, however, by which its approach may be detected, and in some cases, in time sufficient to arrest its progress,—these are, an appearance of delicacy in the expression of countenance, and in the frame of body, a slight cough, or rather hem, generally unattended by expectoration, and seldom noticed by the patient or his friends, and if noticed by strangers, not acknowledged; the pulse is above the natural standard, and easily excited, the respiration is hurried by slight causes, and there is frequent palpitation; a face commonly pale or sallow, is easily flushed, a sense of weight or fulness is frequently felt in the head, accompanied by vertigo or tinnitus aurium, the usual exercises are followed by lassitude and languor, and there is a slow but gradual emaciation.

"As the disease advances, slight fugitive pains and a sense of oppression and weight are occasionally complained of in the chest, and aggravated by a deep inspiration, the digestive organs are disturbed, and the excretions assume a preternatural appearance, a low irregular fever comes on, indicated by thirst, heat of skin, slight chills, frequency of pulse, and whitish tongue; such is a general outline of the complaint in its first stage, when there is some hope of checking its progress:—in its second or confirmed stage, the symptoms are so prominent and so dangerous, they can neither be mistaken nor removed; it is worthy of remark, that the sputa in tubercular phthisis, are seldom tinged with blood; these tubercles are found in distinct cysts, and being the product of diseased lymphatic vessels and glands, we cannot expect them to contain blood, but we discover a cheesy or curdy matter, varying in color and consistence, according to the intensity and duration of the disorder, resembling the curdy whitish and whey matter detected in the lacteal glands of the mesentery when inflamed and suppurated."

We shall give one more extract respecting climatorial and medicinal treatment.

"Among the means of prevention, setons or issues established in different quarters of the thorax often prove highly serviceable, and in detecting

some of the more early signs of this disease as well as the portions of the lungs most affected, considerable aid may be derived from the skilful application of the stethoscope, invented by the late scientific and distinguished Monsieur Laennec.

"Clothing sufficiently warm to protect the body from the vicissitudes of the weather is, at all times, necessary. A pure dry air, a serene sky, and an equable climate are often recommended, and no doubt, are very desirable; but where are they to be found?—Every country has its disadvantages; in one, sultry heats and chilling dews; in another, intense cold; in a third, sudden vicissitudes of atmosphere; in a fourth, fogs, clouds, torrents, storms, or earthquakes; or we find that hot suffocating wind the Sirocco, or the cold piercing Bise, or that foul destructive air, the Malaria, or those pestilential vapours that arise from stagnant marshes; in short whithersoever we go, we find some drawback—a something still wanting; why not then, especially when foreign travel, and a foreign residence are impracticable, look to our own resources?—in them we may discover what will compensate us for the absence of the brighter skies of more southern latitudes. When the lungs are ulcerated and hectic fever sets in, foreign travel is worse than useless, it is injurious, for it subjects the invalid to cold, wet and fatigue, to many inconveniences and bad accommodation; and when we reflect on the want of almost every comfort in Southern Europe, on the absence of friends and society, and on the certainty of possessing these advantages at home, I do not hesitate to say, that in a well regulated temperature of a large commodious dwelling, situated in the country, and protected from the easterly and north-easterly blasts, better health, more happiness, and longer life will be enjoyed than in France, Italy, Spain, Madeira, or in the isles of the Mediterranean."

#### RECOVERY FROM PHTHISIS.

We have now to look to the brighter side of the picture—a side which is too generally regarded with scepticism, or rather downright incredulity. Nevertheless, the light of modern pathology has shewn us that tubercular consumption is occasionally cured—and that, perhaps, by the unassisted efforts of Nature. This is proved by dissection, and there are many cases where we have good reason to believe in a cure, without the proof afforded by anatomy. We shall proceed to a cursory examination of those adduced by Dr. Mills.

CASE 1.—Mr. —, aged 32, of a pale, sallow complexion and spare habit, had been losing flesh, strength and appetite for ten months prior to the date of the report, (19th October) while a dry teasing cough, attended sometimes with gross, purulent, flaky expectoration, evinced an affection of the chest. Hectic fever was now present—pulse 124, weak and irregular—skin dry—tongue whitish and tender—thirst—progressive emaciation—*pain in the right iliac region—bowels constipated—sense of heat, tenderness and distention in both hypochondria.* A blister was applied to the iliac region, and aperient pills were prescribed. 21st Oct. The iliac pain relieved—the cough troublesome—the expectoration purulent—feces dark—urine laceritious. To take animal jellies; pills of rhubarb and ex. col. comp.; mucilaginous emulsion, with tincture of opium.

"Oct. 26th. Cough abated, expectoration not so copious; two or three dejections daily: feces, at one time, scyballous, at another, indicative of vitiated bile; hectic fever diminished, better appetite. Cont. Med.

"Takes chicken for dinner and two glasses of claret.

"*Nov. 6th.* Expectoration less purulent and not so dark-coloured: fever abated; feels some return of strength and spirits; is uncomfortable in his feelings unless he has two or three full dejections in the twenty-four hours; is obliged to increase the dose of the opening pills; complains of acidity of the stomach; lives in apartments heated to about 56°.—Fahrenheit.

"Pil. Cath. omni nocte.  
Haust. ex rheo et magnesia.  
Omni mane.  
C. Mist. anodyn. pro tussi.

"*Nov. 13th.* Skin now moist and of a more natural appearance; feces more consistent, finds sensible relief after every evacuation, pulse 98; tongue cleaner; expectoration less copious and purulent:—takes two glasses of claret, animal jelly and some white meat daily,—complains of flatulence.

"Infus. amar. cum  
Spir. Ammon. Arom.  
C. reliqua.

"*Nov. 20th.* Is now able to read and to walk about his room for an hour without fatigue,—pulse 88. Cont. omnia.

"*Nov. 24th.* Cough and expectoration abated; two or three consistent dejections daily; urine lateritious; sleep refreshing; appetite and strength improving. Cont. omnia."

From this time, the quantity of meat and wine was increased, and the expectoration became diminished. On the 14th December, however, we find that the aperient had lost its effect—and that "*the cough became troublesome, the expectoration gross and copious, the pulse frequent, accompanied by diminished appetite and disturbed rest.*" "*The aperient was changed, and, as soon as the bowels were fully opened, the symptoms became moderate, and there was a restoration of strength and spirits.*" From this time the patient went on to convalescence.

We have given the above case more fully than may seem necessary, but we consider it as a very unequivocal specimen of pulmonary affection, connected with, if not mainly dependent on, the abdominal derangement. The passages which we have specifically quoted, and especially those which we have marked in italics, will, we think, carry conviction to the minds of our readers on this point. And here osculation would have contributed much to the diagnosis between real and symptomatic phthisis—but the stethoscope was not employed. It is true Dr. Mills avers that, during his attendance, "*tubercles were at different times thrown up:—the cavities made by the discharge of so much purulent matter must have subsequently healed.*" We beg leave to doubt these conclusions, in the absence of any auscultic proofs in the living body, or anatomical demonstrations in the dead. Dr. M. is at a great loss to account for the good effects of purgatives in this case: but the difficulties vanish, if we come to the conclusion that the main seat of the disease was below the diaphragm. Dr. M. found, also, that small quantities of claret and nutritious diet, while they improved the strength and spirits, rather diminished than increased the hectic." The following case is still more in point.

**CASE 2.**—This is headed as follows:—"A Case of Recovery from Phthisis Pulmonalis, in consequence of a Change from a low to a generous Diet, and from sedative Medicines to Wine and Cordials." The title is somewhat ominous to a former article of Dr. M.'s creed, namely; that all the cases treated of in this volume were "of an inflammatory nature." But to the case before us.

Mrs. —, aged 49, is (Feb. 20) pale, weak, emaciated—sight imperfect—speech inarticulate—pulse feeble, frequent, and irregular—skin cool and constricted—tongue white—breathing oppressed. This lady has been living on a low diet and on tincture of digitalis for the cure of pulmonary consumption, "under which she has been labouring for many months," the sedatives were discontinued and were replaced by spiced wine.

"Feb. 21st. Was revived by the wine; cough not quite so troublesome; expectoration of a greenish-yellow; breathing less oppressed; no pain in the side or chest; pulse 120; some rest; body constipated; complexion sallow."

Blue pill and colocynth—an opiate emulsion for the cough. Chicken broth and mulled wine. On the 26th, we find her improving on this plan, and three or four glasses of claret were allowed, in addition to animal food. On this system she gradually recovered.

The great imperfection in this case is, the total want of proof that the patient laboured under phthisis pulmonalis. The expectoration, indeed, at one time, is represented as "cream-coloured and sinking in water;" but that is a very inadequate proof of pulmonary consumption. We can spare room but for one more case, and that is headed—

### *"Hepatic Phthisis.*

"Mrs. B —, æt. 21, of a sallow complexion, subject to scrofulous swellings of the neck, and born of parents who have often laboured under diseases of the liver, for three years has been subject to a slight cough, dyspnœa and palpitation, preceded or accompanied by fugitive pains in both hypochondres, occasionally shooting to the shoulders; or by a sense of weight or fulness in the right side; these symptoms have been attended by a low irregular fever, by acidity or flatulence of the stomach, by constipation and a diminished appetite; about a year ago an eruption of the furfuraceous kind appeared on the face, and within the last four months the affection of the chest has become more violent.

"Blisters, aperients, mucilaginous mixtures and anodynes have been prescribed.

"During the last week has complained of pain in the loins and head, of vertigo, loss of appetite and strength: tongue yellow, feces, blackish, urine latertitious, pain in the right hypochondre and shoulder augmented by pressure, fever, troublesome cough, slight hemoptysis."

Leeches—pil. hyd.—saline medicines. The mercurial treatment, with occasional leechings and purgations were continued, and partial recovery took place. The following is the commentary of the author.

"This is a case of hepatic phthisis, a formidable disease which requires at the onset a judicious and decided line of treatment; the complaint of the

liver was prior to that of the lungs, and being obscure, gave rise to an alarming train of symptoms before it was fully developed or suspected; hence the teasing cough, hemoptysis and hectic fever, hence, the full display of chronic inflammation and enlargement of the liver with all its attendant symptoms and indigestion, and hence I fear the development of tubercles in the lungs. For the present, the patient is considerably relieved, but phthisis pulmonalis is ultimately to be apprehended. The cough, dyspnoea and palpitation which appeared early in the history of the case served to mark the lurking and primary disease of the liver, and, unfortunately, improper or frivolous remedies were administered, whereas, had just views been taken of the complaint at its commencement, and efficient means employed to arrest the progress of low inflammation of the liver and correct its morbid actions, have we not reason to say that the progress of disorder in the lungs might have been prevented? And this appears to be the useful practical question to which the case gives rise.

"On inquiry, I find, that this lady died in the county of Armagh of pulmonary consumption, in the year 1820, that is four years after the above illness."

This brings us to the conclusion of the first half of the volume, embracing diseases of the trachea and lungs. The other half embraces affections of the heart, and will require a separate article. We accord to doctor Mills the meed of zeal and industry—and although we do not carry our confidence in pathology to the same extent as he does, yet we venture to say that we attach to its study all the importance which it deserves. The value of some of the cases in this volume is evidently much diminished by the inattention to physical signs, where the nature of the complaint was not revealed by dissection. Doctor Mills is surely not too old to add to the stock of knowledge which he already possesses—and which is large—by the cultivation of mediate or immediate auscultation.

*Singular Case of Artificial Anus, successfully treated.* By  
GEORGE W. CAMPBELL, M. D. of Colombia, Tennessee.  
*Taken from the Transylvania Journal, August, 1829.*

ABOUT the 1st. of October, 1828, doctor Anderson, of Giles county, was called to see J. Jones, Esq. aged 40, inclined to be corpulent; found him complaining of great uneasiness throughout the abdominal viscera generally, but mostly of a heavy dragging kind of pain in the right side, with sensation of fulness there. He had little or no fever, but was very much alarmed, owing to the unusual feeling in the bowels.

Being attacked in the night, after taking a hearty supper, his case was thought to be one of cholera. Cathartic medicines of a mercurial kind were prescribed, with directions that enemata should be used if the bowels were not operated upon. The purgative medicines were repeated frequently, with bleeding, anodynes, &c. but it was not until after a lapse of three or four day's perseverance in this treatment, that a passage was effected through the bowels. After the bowels were pretty well operated upon, the irritability of the stomach, together with the excruciating pains of the bowels, measurably subsided, leaving a dull heavy pain, with some fulness in the right hypochondrium. Blisters were applied frequently

over the swelled part, and purgatives were continued for two weeks; at the end of which time he was thought to be some better: he was then directed to use nothing but light aperient medicines. There appeared to be but little alteration for ten days, when it was ascertained that his discharges had become of a pale colour. This gave rise to a suspicion that the liver was implicated; for which an alterative course, with calomel, was commenced and kept up for several weeks, without any other effect than that the discharges became of a natural appearance.

During this time the seat of uneasiness gradually fell down into the right iliac region, where it remained permanent for a few weeks, when a swelling, with the appearance and symptoms of a deep seated phlegmon, appeared on the back, just below the right kidney and the last rib. Blisters, &c. were frequently applied without benefit. On a minute examination of the tumor, there was discovered fluctuation, with a gurgling sound. An incision was made into the swelling with a scalpel, which was followed by a discharge of some bloody water and a little pus, with a puff of wind. Being very much reduced and weak, tonics were directed and continued for some time, but did no good. His recovery was now almost entirely despaired of by himself and friends; when dressing the ulcer, which character it had by this time assumed, a body was seen to occupy the bottom of the ulcer, which was laid hold of with a pair of forceps and drawn out. The doctor, together with two other physicians who had been called in consultation, supposed the substance to be the result of a sloughing of the muscles of the back, as the disease was immediately over the sacro-lumbalis and longissimus dorsi.

There was no discharge following the substance, when drawn out; but about six hours afterwards, the natural contents of the bowels were discharged at the opening. The alarm now became greater, and the last hope, as the patient supposed, was in an operation, to sew up the bowels from whence the discharge came; for which purpose I was sent for on the 2d of January.

I found him reduced almost to a skeleton, by three months' confinement with severe illness; with great anxiety and dread of the operation which he expected to undergo, and the awful apprehensions of death. The dressings were removed from the part, and the first thing that attracted my attention, was the discharge of chyle and bilious matter, which appeared to be continually escaping from the opening, and had excoriated the skin in the neighbourhood of the place. I now felt pretty certain that the duodenum, or some portion of the intestine not far remote from it, was involved in the slough that had taken place; and that a portion of intestine remote from the stomach and duodenum was also involved. This opinion was founded on the circumstance of the constant discharge of chyle, &c. which must have come from the duodenum, or some portion of bowel near to it; and secondly, upon there being, occasionally, discharges of fecal matter which must have come from a portion of the intestine, remote, physiologically, from the duodenum.

The opening had not been examined previous to my arrival, except with a small probe, which could have afforded but little information respecting the situation of affairs within the cavity of the abdomen. I now introduced my finger into the opening; and the first thing, after getting through the skin, muscles, &c. (and they were soon passed, as the swelling that had previously existed, had entirely subsided, and left rather a depression in the neighbourhood, and as the system was so very much reduced and emaciated,) that attracted notice, was the lower part of the kidney, which could be felt distinctly; the *psaos magnus* muscle, which gave the finger

a direction upward and forward and brought it in contact with the liver, which appeared to have been somewhat enlarged and extended lower down than common. I could not distinguish, precisely, the colon and duodenum, from other substances that presented themselves, but I felt confident that the duodenum was somewhat drawn down from its natural position, together with a portion of colon and omentum. I could easily introduce a bougie, upward and forward, into the duodenum and stomach; into the colon, in the direction it takes from the liver, forming its transverse arch, and in the opposite direction, as it ascends from the right iliac region.

After this examination, I was satisfied, as I had previously expressed a belief, that the rupture, or loss of substance, in the duodenum and colon, was confined to those portions of them which were in contact with the peritoneal covering of the abdomen and with themselves; or such parts of them as had no peritoneal covering, and that such adhesions had taken place between the duodenum, colon, omentum and peritoneum, as prevented the contents of the bowels from escaping into the common cavity of the abdomen.

When I had satisfied myself as to the true nature of his situation, I told the patient, that there was no necessity for any operation, and that I should make none; that nature had anticipated me in the operation, the performance of which, she commenced, with the commencement of his illness, and that his situation, at present, showed, that nature had performed the operation, thus far, more completely and more successfully, than it could possibly have been done, by me, or any other man; and that he would certainly get well. At this he expressed dissatisfaction, by saying, "after sending thirty miles for me to come to cut him open and sew his bowels together, that I now refused to do it, and he was left to die, without having any thing done to save him." After being made acquainted with his true situation however, he abandoned all idea of an operation, and consented to what course was thought most proper.

He was directed to have the opening injected, occasionally, with a decoction of oak bark; to take three or four quinine pills a day, and have the bowels kept open, principally, by the use of enemata. A compress and bandage were applied with a view to prevent the contents of the bowels from passing out, and to facilitate cicatrization. There were no farther discharges of feces; the ulcer soon healed up; he gained strength rapidly and is now perfectly well.

I examined the substance which came out of the artificial opening, which filled a common sized plate, and found it to consist principally, of omentum and portions of intestine.

As to the true condition of the parts involved in this disease, within the cavity of the abdomen, we cannot arrive at certainty; but taking all things relative to the case into consideration, I am strongly inclined to the belief, that there was intussusception. In all probability, the cæcum, with a portion of ilium, was inverted into the ascending colon, carried up in contact with the liver, duodenum, &c. and formed the swelling and hardness, which were present in the right side, from the commencement, until the abscess was formed on the back; which terminated in inflammation, sloughing, and loss of omentum, duodenum, colon, the whole of the cæcum, and a portion of ilium.

[*Remarks.*—The case before us is truly remarkable:—It may serve to encourage us under the most discouraging circumstances in similar cases. We cannot however, admit the supposition advanced by doctor Campbell, that this was a case of "intussusception." The invagination of the bowels is a disease of extreme suffering—whoever has seen the violent ileus, the colicky pains, and alarming anxiety of such patients, cannot admit the opinion



advanced by doctor Campbell. We are not apprised in any part of the narrative of any remarkable constipation. We would suppose it utterly impossible to say what may have been the precise nature of the internal derangement, but there is much reason for believing, that the mass consisted principally of omentum, mixed, as doctor Campbell, says with "portions of intestine." These cases are rare, and although we are aware of many, in some degree similar, having been reported, we have thought proper to notice the case related by Cheselden—this was the case of Margaret White, who "in the fiftieth year of her age had a rupture at her navel, which continued till her seventy-third year, when after a fit of the colic, it mortified and she being presently, after taken with a vomiting, it burst. I went to her and found her in this condition, with about six and twenty inches and a half of the gut mortified. I took away what was mortified, and left the end of the gut hanging out at the navel, to which it afterwards adhered; she recovered, and lived many years after, voiding the excrements through the intestine at the navel, and though the ulcer was so large, after the mortification separated, that the breadth of two guts was seen; yet they never, at any time, protruded out at the wound, though she was taken out of her bed, and sat up every day."

This case so very extraordinary, serves to show, the astonishing power of nature in obviating danger in wounds of the intestines, by the adhesions, which take place among the serous membranes. In wounds of the intestines the parts necessarily inflame—in inflammations from internal irritations, the inflammation which surrounds the part which gives way by mortification, effects the necessary adhesions, to prevent the escape of the ingesta, and, thus, in both cases, the patient is saved. But notwithstanding this occasional happy result, we must not be sanguine in our hopes, since in a very great majority of cases, affections involving the intestines in mortification will terminate fatally.] Editor.

Whether this invagination of the intestines, was produced by the efforts which were made to remove constipation &c., or whether it existed at the commencement, and was the cause of constipation, pain, &c. I am not able to say; but I am much in favour of the opinion that these effects may, and are produced from the repetition of powerfully drastic and irritating purgative medicines, that are so frequently resorted to, with a view to break down an energy that is acting in opposition to the healthy peristaltic motion of the intestines. And between the operation of the two opposing causes, or principles, I can conceive, that intestinal invaginations may readily take place. One portion of intestine, may be under the influence of increased peristaltic motion, while another portion is under the influence of violent antiperistaltic motion. I can conceive also, that anodynes, unskillfully managed, may be a cause of intussusception. When the bowels are in great commotion, whether from disease or the attempts to remove it, anodynes may be partial in their effects; while they allay the disturbance in one quarter, they produce no effect in another. The calibre of the bowels, may also undergo irregularities, from the effects of disease, or unsuccessful attempts to remove it. While some parts are contracted by some spasmodic action, other parts are distended by flatus, which would constitute an additional facility to the formation of invaginations.

## SURGICAL.

*Case in which the operation of lithotritie was successfully performed.* This was the case of a man who had laboured under symptoms of calculus, about five months, and of whom the Edinburgh Medical and Surgical Journal gives the following account.

"On the 15th of November a solution of opium having been injected into the bladder, Mr. Liston introduced Civiale's instrument, but owing to the restlessness of the patient, and the irritable state of the bladder, did not succeed in grasping it completely. Several small pieces of stone, however, came away in the fangs of the instrument, and during the night, he suffered no inconvenience from the operation. On the fifteenth, he passed a barley-corn incrustated with calcareous matter. On the 16th, a piece of straw with the same incrustation. He complained of pain in the testicles. On the 18th, a small abscess having formed in the scrotum was opened. The instrument was again introduced on the 25th. The stone was fairly laid hold of but was so soft that it was crushed by the instrument, on withdrawing which, several fragments of seeds were found adhering. He now confessed, that, while reaping during the last harvest, he had introduced a number of barley-corns into his urethra, but would not say for what purpose.

"The patient had repeated attacks of retention of urine after the last operation, from the large portions of stone lodging in the urethra. He passed in all, thirteen fragments, having entire barley-corns for their nucleus, besides a much greater number having only small pieces of the beards. He had now little pain, and the quantity of mucus in his urine was inconsiderable. He was sounded several times, and as nothing was felt in his bladder, he was dismissed cured on the 16th of December, 1828.

[We think that every surgeon whose mind is not satisfied on this subject has a right to satisfy himself, by actual experiment as to the real merits of Civiale's operation, and, therefore, we think the experiment of Mr. Liston, entitled rather to commendation, as it is the first which has succeeded, within our recollection, out of France. But the more we see of this subject, the more are we convinced, that our first impressions were correct, as they will be found recorded in the late Medical Recorder of Philadelphia.

And we are truly sorry to see the willing assent which is given to every thing like success attending this operation, as though there was no other. We are told in the above case, that the patient "suffered no inconvenience from the operation;" yet, we find he was in the hospital upwards of a month, (from the 15th of November, to the 18th of December,) during that time, his bladder was so irritable, and the patient so restless, that, on the first trial, the operator could not proceed. He had several attacks of retention of urine—an abscess in the scrotum—pain in his testicles—all apparently as consequences of the operation.

If we admit that this patient suffered less, or that he was cured sooner than he would have been, by the simple lateral operation, where the wound is healed by the first intention, of which, we have doubts at least, we must not overlook the fact, that this was a very favourable case for the new operation.—There seems to have been one fragile concretion around the barley-corns, which was broken, at least on the first trial, by good luck.—Little more seems to have been done, other than introducing the lithotriptor, and crushing the calculus. And although it is obvious

that the patient must have suffered much from the repeated retention<sup>d</sup> passing of fragments through the urethra, an abscess, irritation of the testicles, &c. we may well suppose, he was a fit subject for rough handling, when he was fool enough, and callous enough in these parts, to introduce barley-corns for his amusement. Such a man could neither be very sensitive in his urethra, nor without a passage sufficiently large, when he could stuff himself with barley-corns: and barley "straws?" We would repeat, we are far from wishing to object to proper trial of this operation, under proper circumstances, and we think this a fit case, and a fit subject; but we venture again to predict, that the operation of Civiale will not long survive its inventor—that while we believe the possibility of success, in favourable circumstances, still we think there is not one surgeon in ten thousand who will ever equal Civiale, who has bestowed half a valuable life time in the invention of that which is too uncertain, and too difficult of performance, ever to become, in any considerable degree, useful to mankind.] Editor.

*M. Lisfranc's treatment of Elephantiasis* This consists first, in reducing the nourishment one fourth, then a third, and, finally one half; Second, in the employment of bloodletting, or application of leeches. Antiphlogistics persisted in, until the inflammatory symptoms are entirely dissipated—after this, he has recourse to compression. When these means do not succeed, he applies numerous vesications, or resorts to scarifications, making one hundred at a time. In one case the number of these amounted to three thousand. But to ensure success it will be necessary to use great numbers of leeches every time that inflammation supervenes. If this inflammation be of the erysipelatous kind, it must be left to run its course, at least if it be not too violent, (in which case leeches and antiphlogistics will be required) since experience has shown, that this form of the inflammation is favourable to the resolution.—American Journal of the Medical Sciences.

[When we reflect upon the intractable and frightful nature of this disease, we cannot but approve the bold, and we think, rational plan of treatment proposed. It carries with it a terrifying amount of privation, and severe and protracted suffering; but when this is contrasted with the horrors of this disgusting and almost incurable disease, we should be glad to embrace any rational plan of treatment however severe.

There can be no question, we think, as to the propriety of adopting the abstinence, free venesection, leeches, and compression. The good effects seen in the practice of doctor Physick, of reducing patients, affected with chronic inflammation, by a very low diet, tend to corroborate the opinion of Lisfranc. The blisters would seem to be a rational remedy, but how we are to derive benefit from those numerous scarifications, we are at a loss to decide; and would rather trust, we think, to a continuance of the antiphlogistic plan longer continued, with some abatement of its austerities. Experience is, however, our surest guide, and we have to acknowledge, that we have seen but little of the disease under notice. We should imagine, it will not always be an easy matter to distinguish erysipelatous inflammation, in these cases, from common inflammation; and, indeed, we much doubt the opinion expressed, that erysipelas tends to cure elephantiasis.] Editor.

*Aneurism in the palm of the hand.* This case, recorded in the London Medical Gazette, is thus related in the North American Journal of Medicine and Surgery. "William Hall punctured the ulno carpal artery in the palm of the hand, about an inch below the pisiform bone. The hemorrhage was restrained by pressure, and in two days the external wound cicatrized; but soon afterwards, an aneurismal tumour appeared and

increased rapidly. On the 9th of June Mr. Palmer found it of the size of a walnut, pulsating strongly. Pressure on the ulnar and radial arteries simultaneously, arrested the pulsations. On the 12th of June a tourniquet was applied to the limb, and Mr. Palmer made an incision two and a half inches in length over the centre of the tumour, and immediately secured the ulnar artery which entered into it. The sac was then opened; but on slacking the tourniquet, a strong jet of blood issued forth. As the lower orifice of the vessel could not be discovered by means of a probe, the artery was dissected for externally, found and secured. The tourniquet was again loosened, and some hemorrhage followed; and as the bleeding vessel could not be discovered Mr. Palmer passed a double ligature beneath the sac, tied its two ends above and below, including the sac between the knots. The hemorrhage was completely arrested; the last ligature was removed on the 30th; and on the 7th of the following month, the cicatrice was perfect."

[We have seldom seen a case of surgery which we would be less disposed to commend, than in the above case. Indeed we consider every step of the operation more or less involved in error. Why was the sac opened at all? Had the operator cut down and tied the ulnar artery, at some sound point a little above the tumour, we feel the fullest assurance; there would have been very little trouble with the case. But pursuing him in his own method, had he applied compression after tying the ulnar artery, he would have experienced no further trouble, at least, we have found this to be invariably true, in several operations we have performed, in cases of wounds of the carpal, and plantar circles of arteries. We know very well, the anastomosing branches will cause the wounded artery to bleed in a retrograde course, but, agreeably to what has been said by Mr. J. Bell, on this subject, we have seen this reversed current very easily restrained. We therefore think, that the operator might have avoided all the trouble to himself, and pain to his patient, attending the searching for the lower end of the wounded artery, or cutting for it lower down, and there tying it; and also, from tying a ligature about the sac. If it be found that a case, now and then, occurs in which we are compelled to resort to this plan, which we are confident will very seldom occur, we should first try the effects of compression—we repeat it, as has always answered our purpose, and, yet, before the first artery was tied, in some cases, no amount of pressure could restrain the hemorrhage. In addition to the above objections, we beg leave to remind our countrymen of the importance of the animal ligature. That surgeons should obstinately persist in the rejection of this ligature, is really unaccountable. Who that has ever seen a common ligature surrounded for days and weeks by suppuration, can be insensible to the irritation and pain, which it produces? Who, that has fairly tried the animal ligature, but must acknowledge its comparative innocuous qualities, when applied to inflamed parts.] Editor.

*Aneurism by anastomosis.* Reported in vol. xv. of the Medical Chirurgical Transactions, copied from the North American Medical and Surgical Journal. "Mr. Brodie has related a case of aneurism by anastomosis, cured by means of the ligature. Miss ——— when five years old, received a blow on the forehead; soon afterwards a tumour, the size of a pea was observed at the injured spot. It for a long time remained stationary, but in the year 1821, twelve years after its formation, it had manifestly increased in size, and an attempt was made to cure it by pressure, which aggravated the complaint. From this time there were attacks of intense headach, which were only relieved by bleeding. In 1824, Sir A. Cooper made another attempt to treat by pressure but unsuccessfully. In 1826,

he secured four large supplying arteries, at four different operations, with the effect of diminishing the pain and also the size of the tumour. The relief was temporary. In the winter of 1827, the tumour increased, and the painful sensations returned with redoubled violence, attended with a constant weight over the eyes, and with excessive depression of spirits. Mr. Brodie was consulted on the 9th of October, 1828. The tumour was now larger than a double walnut, and situated on the right side of the forehead immediately below the hairy scalp. It felt as if composed of a mass of tortuous vessels, and a strong pulsation was perceptible in every part of it. The skin covering the tumour was thin, and on some occasions the vessels appeared on the point of bursting. On shaving the scalp large and tortuous arteries were seen passing in every direction to the tumour. Pressure on both temporal arteries slightly diminished the pulsation. There was a constant sense of weight and pain in the forehead: the latter was aggravated by pressure on the tumour, especially at its upper edge. Mr. Brodie proposed to strangle the tumour by ligatures; this was sanctioned by doctor Robertson, Mr. Keate, and Sir A. Cooper, and the operation was performed on the 15th of October. A long steel needle was passed under the tumour between it and the periosteum. By means of this needle the tumour was raised, and another needle passed beneath and at right angles to the former; a strong silk ligature was then drawn firmly round the base of the tumour below the needles. The tumour immediately became purple as if strangulated. Much pain was experienced; but from the instant the ligature was applied, the peculiar sufferings occasioned by the disease was at an end. Some fever was excited, for which bleeding was required. On the 18th of October, all the arteries entering the tumour had either ceased to pulsate, or pulsated less strongly than before, with the exception of those at the upper part. Concluding that the strangulation was not complete, Mr. Brodie armed one of the needles with a double ligature, and having removed the needle, tied the ligatures one on each side. On the 20th, the same operation was repeated with the other needle. On the 22d, the pulsation of the arteries at the upper part had greatly diminished, and the slough had begun to separate. On the 26th, the slough came away without the smallest hemorrhage. The remaining ulcer was touched two or three times with nitric acid, as some suspicious appearances were noticed—it however, soon healed. On the 2d of December, the cicatrice was completely formed; the extraordinary pulsations of the arteries had disappeared, and there was nothing unusual to be observed, excepting a little fullness between the cicatrice and the eyebrow, owing to prior distension of the skin. The patient was free from pain and all other inconvenience."

[What shall we say to the surgery of the above case? We would not entirely object to the trial of pressure, believing, as we do, that it has sometimes succeeded; though we know it has often failed: but, after pressure was found to *aggravate the disease*, we are truly surprised at the expedient adopted by Mr. Cooper; "he secured four large supplying arteries, at four different operations." These operations were followed by some *diminution of the size, and of the tumour*. Why Mr. Cooper should have made four operations we cannot imagine—that this procedure was calculated to lessen the chances of recovery, we think there can be no doubt. As a considerable interval would probably intervene between the operations, sufficient to let the wounded parts recover the injury; would not the remaining arteries, by anastomosis tend constantly to enlarge the whole tissue of arteries within the tumour, and thus, by the time the last was tied, many others would have increased in size, so as to keep up a great supply of blood which might have been obviated, by tying all the arteries

at once? But here was committed the first grand error in the case. Had the operator adopted the method often practiced by doctor Physick, and which we have often practiced, and with uniform success: we mean running a scalpel round such a tumour, down to the periosteum, and then tying the arteries separately, by means of the tenaculum, a successful issue might have been confidently relied on. No difficulty whatever attends these operations, owing to the facility with which the parts may be divided down to the periosteum, and two or three assistants can easily restrain the hemorrhage, by means of their fingers, till the arteries are successively tied. When these tumours are situated on the anterior part of the head, much may be done in restraining the bleeding, by firm pressure on the temporal arteries at the butt of the ear. The arteries tied, we interpose lint between the divided parts, to prevent union by the first intention.

By this method we not only save much time, and prevent much pain, but we produce far less deformity than by cutting out the tumour. On what ground the consultation in the above case, can justify cutting away a considerable tumour, covered with integument, by means of ligatures, tied round needles, &c. we cannot conceive. Why was the tumour not turned out with the scalpel? The fear of hemorrhage in vessels so superficial, and easily controlled by pressure, is childish, and ought never to weigh one moment, where the lessening of pain can be effected. We cannot see on what ground the cutting through parts so sensitive by ligature, can be justified. The scalp divided by the knife is always a favourable part for checking hemorrhage; by running the scalpel round and dissecting up the muscle a little, we can easily command the vessels.

We, therefore, give it as our opinion, that the proceedings in the foregoing case stand in need of correction, and are, therefore, not to be taken as an example of judicious practice. We are decidedly of the opinion, that even when the case came into the hands of Mr. Brodie, the better practice would have been, either to insulate the tumour, by means of the scalpel, provided it was not too large to admit of it, without deformity; if otherwise, the tumour should have been extirpated. Under proper management no dangerous hemorrhage could have occurred—the knife sweeps around almost in an instant, and having divided the vessels where they are sound, and not greatly enlarged, there will be no difficulty in checking the bleeding, by the fingers of two or three assistants—the arteries once tied, and the parts kept asunder for three or four days, the disease cannot return. We cannot figure to ourselves a more tormenting piece of surgery than that of passing through needles, and gradually strangulating a mass of integument, cellular membrane, &c. We therefore cannot recommend, too strongly, to the profession, we think, the method employed by doctor Physick, in vascular tumours of the head: and the use of the knife for the extirpation of tumours, to the exclusion of ligatures where the former can be applied.] Editor.

*Operation for the formation of an under lip.*—We copy the following case from the North American Medical and Surgical Journal. "In consequence of an extirpation of a cancer from the lips, J. L. Reinhard, at 48 years of age, was troubled with a disgusting deformity of the mouth, and could not retain his saliva." "The operation for hare-lip was performed with success on the superior labium." "A similar attempt was made on the lower lip unsuccessfully—a second was made with a similar result." M. Textor, we are told, performed the following operation by dissecting a flap from the skin of the neck. "The flap detached from below the chin, being accurately adjusted to the vacancy to be occupied, was fixed by sutures without adhesive plaster or bandage." "The dressings were renewed on the third day after the operation." The cicatrice was "complete" on the 26th

day after the operation, "it only remained to divide the pedicle of the flap. The deformity was greatly corrected.—*Jour. des Progres.*"

[The operator in this case is entitled to great praise—although we must acknowledge the humbling fact, that in many cases we cannot cure our patients affected with cancer of the lip, when much extended, yet we know, that in other cases surgeons do succeed under very discouraging circumstances, and no doubt sometimes the extreme deformity, which must succeed, prevents surgeons from operating in cases where in other respects, there would be a reasonable chance of removing the cancer. The above case serves to encourage us under such circumstances. But a surgeon should be extremely cautious in the employment of the above operation, since in some subjects, nearly the whole under lip may be removed, and a tolerable reproduction take place, by the drawing up of the skin below. Such cases have been reported, and we have once succeeded in a man upwards of 70, in obtaining a very good lip, after taking away the greater part of it. It will be a good rule of practice in these cases to heal the wounded parts after an operation, and when they shall have healed, and we find there will be a deformity remaining, after sufficient time, say a few weeks, to see what nature will do, we may now, as in the case of M. Textor, operate with great propriety. The above operation is said to have occupied an hour for its completion.] Editor.

[*Cure of femoral aneurism from pressure.*—This case is noticed in the North American Medical and Surgical Journal, as reported in the Medico-Chirurgical Review for July. A man who had been cured of an aneurism of the thigh, by operation, two years before, came into Winchester hospital, for advice; he was made an out-patient, and directed to wear a flannel roller till he could be admitted. The disease occurred without any obvious cause—the tumour had attained five or six inches in circumference, was circumscribed, rather hard, but reducible by pressure on the artery above it. The patient returned some weeks after, wearing the roller, and a handkerchief pretty tight with a knot in it, directly on the tumour, when, on examination it was found, that the size of the swelling was much reduced, and the pulsation missing. The patient complained of heat in the limb under the skin, which he resembled to the passing of hot water over the parts. Mr. Lyford continued the pressure sometime longer. The patient was discharged, cured without any material impairment of the knee joint. The Philadelphia Journal has made the following remark on the above case. "The reporter would regard this recovery as owing to the obliteration of the artery in consequence of pressure from the tumour and bandage; it was not owing to the formation of coagula filling up the sac, as the tumour would almost entirely subside on pressing the artery above; and after the pulsation ceased, the remains of the tumour were dissipated with greater rapidity than under ordinary circumstances. This case would furnish an argument for treating aneurisms more frequently by pressure."

We are of the opinion, that, this case has no peculiarity about it, which would furnish any "argument for treating aneurisms, more frequently by pressure," except the circumstance of its adding another case to the few that are on record, to compare with the vastly greater number that have been attended with fatal consequences, by trusting to other means than the operation. We think it will be conceded, that there is but one way in which an opened artery can heal (speaking of those of considerable size,) that is by laying the sides of the vessel into contact. It matters not whether there be fluid blood, or coagulated blood, in an aneurismal sac; the vessel can only heal after the blood shall have ceased to pass through it, and the inner coat is kept pressed together, with two flat sides, or by

drawing it together, as by a purse string. It is perhaps true, that a vessel surrounded by coagulum is more likely to heal than one that is not, but, in either case, the circulation must be stopped by pressure somewhere. If blood passes along the sides of an artery and then coagulates, so as to form a sort of wedge, and thus close the vessel by pressure, we see no reason why external pressure may not do the same. In the last case, however, as the limb is surrounded by bandage, and there is usually swelling, and interruption of circulation, no one can be insensible of the danger of pressure on such a limb. If you apply a ring, and confine it by means of a screw or otherwise, so as to make pressure on the point you wish to act upon, still you must unavoidably press on the accompanying veins, nerves, and lymphatics. Our own experience whether we allude to our reading, or our own observations, leads us to conclude, that one of the greatest triumphs of modern surgery is the improved method of treating aneurism; and we trust nothing but necessity will induce any surgeon to trust to so precarious and dangerous an expedient as pressure, for the cure of aneurism. We confidently believe that there is no rule of practice so sound, in the treatment of aneurism, as that of tying the sound artery where accessible; and, the question as to the time when it should be done must depend upon the development of the tumour; where it is slow, we may suffer the vessels to enlarge, when the development is rapid, the operation should be performed immediately. We are far from believing this case creditable to the surgeon, except so far as he may claim, that all is well that ends well. But how is the surgeon to reconcile his conscience to the cruel and dangerous act of sending away a patient labouring under aneurism of the thigh? In a great majority of cases the consequences would most likely prove fatal.] Editor.

[*Case of Orchotomy.*—In the New York Medical Journal is reported the case of diseased testicle, in which doctor Abner Hopton, in order to rescue a patient from a perilous situation, undertook the operation of removing the testicle, although it was necessary to tie the vessels within the abdomen. The case was tedious, but eventually did well.

We commend the surgeon for so brilliant an achievement, and we have often been led to believe, on reading Mr. Pott's numerous unfavourable cases, where the disease extended into the abdomen and proved fatal, that if the method adopted by doctor Hopton had been employed, in some of those of Mr. Pott's, some of them might have been saved. We have long since determined, that if a suitable case offered we would try this method, but heretofore we have not. We are convinced, as well by the reports of Mr. Pott and others, as by our own observation some years back, that the constitution is often involved in these scirrhus, and cancerous affections of the testicle, and *cord*. So that we must act here with becoming caution, lest we subject those who are past remedy from surgery, or any thing else, to so painful an operation, which in the event of a failure may occasion speedy death.] Editor.

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#### MISCELLANY.

*A cursory comparative view of the state of Medicine and of society generally in the State of Ohio thirty years ago, and the present time. By the Editor.*

A pamphlet has been put into our hands, by our much respected friend, doctor Benjamin Dickson of Steubenville, Ohio. Upon looking over the



contents, we are forcibly reminded of what we saw of the state of medicine, and of society about thirty years since in Ohio. It is presumed that the extreme contrast which we shall present, between the state of medicine thirty years ago, and the present time, in that state, will serve as an apology for offering, at this time, a brief narrative of what we have seen, of a part of the Ohio river, and some of its margin.

It appears upon turning to the pamphlet before us, that "no new medical district shall be formed which shall contain less than twenty-five members." And we observe a resolution providing for the establishment of a new medical district, in 1829, which is the twenty-third. Here, then, are not less than twenty-three times twenty-five respectable physicians, in a State, which but a few years since, was little more than a wilderness. There are therefore, not less than five hundred and seventy-five members, and the presumption is, that the number is far greater. We feel well assured that thirty years since, there was not twenty-five regular physicians in the state in view.

Before giving an abstract from this pamphlet, with some remarks, we shall proceed to give some account of our excursion to the west, to which we have alluded, by way of contrast—a contrast never equalled in any country.

In the month of February, 1799, we embarked, at Pittsburg, for Wheeling, on board a square flat bottomed boat. This boat destined to some station lower down the Ohio, was an oblong square box, made of rough planks, fastened together with wooden pegs; and furnished with rude oars—a part of the deck, the vessel being all deck, was covered with planks, about one third its length, which served to protect pretty well from rain, dew, and the frost of the night; and, the bottom being watertight, there was no want of comfort on board.

Having been put afloat upon the bold stream of the Monongahela, we found our boat freighted with four or five horses, including our own; and a considerable quantity of merchandize. Our crew consisted of a Captain, and the necessary boatmen.—The Captain though of the true "black-woods" cast, was nevertheless a sprightly, sensible, clever, man, tolerably free from vulgarity—several passengers, among whom were two elderly clergymen, a woman, wife to one of the passengers, and the writer of this, then, a very young physician, a good deal inclined to the romantic.

It was expected that we would float to Wheeling in about twenty-four hours, and of course not much provision was made for the trip. In those days it was no part of a Captain's duty to provide either a steward, or provision for his passengers, and, although we had a woman on board, who was doubtless somewhat accustomed to works of the kitchen, still no one thought of trying her culinary skill; but each one might shift for himself, by preparing a little coffee, or do without, as he might prefer.

Our boat afloat might be said to glide down *majestically*, since, we believe, she was equal in tonnage and in construction and sailing powers to any vessel then to be seen sailing on the great western waters above Natches. At that time the hundreds of Steam-boats which now *move upon our waters* were sleeping in the womb of time, or perhaps sailing with all their gigantic powers and ornament of construction in the mind of Fulton. A very little time brought us to the junction of the Monongahela with the more limpid water and unrivalled beauties, of the Alleghany; and we were but fairly afloat upon the Ohio, formed by the junction of the two rivers just named, when we were told, that owing to the lowness of the water, we had some difficulty to apprehend in passing the *rapids*, but a few miles be-

low Pittsburgh. It turned out that in passing the riffles, (so called by the boatmen,) or gentle falls in the river, our boat grounded, at least four or five times. It became necessary at each lodgement of the floating box, for all hands on board, the Captain at their head, to leap into the water, where two or three feet deep, and, thus, by withdrawing our weight, and using our united strength, we succeeded in pushing off the boat, and as the vessel was started from her resting place, and floated rapidly into deeper water, every one had to make the best of his way, by clinging to the side of the boat, and leaping in over the rude gunwales, breast high, to regain a place of safety.

Imagine then our situation, unaccustomed to water craft, yet compelled by dire necessity to leap into the water, near the freezing temperature, in the middle of a wide river, whose current at these rapids is very strong, so that while your legs were immersed in the stream, up to the middle of your thighs, the force of the current would run the dashing water sometimes up to your breast; and, add to this, that to loose your hold, and miss leaping into the boat, would have left you in a current too rapid to admit of your walking in safety, and the boat a mere floating ark, subject to little control, but absolutely without any means of anchoring, except on shore; and you will see the miserable condition of those who descended the Ohio thirty years ago in flat bottomed boats.

We well recollect that all hands on board except ourselves, thought it absolutely essential to guard against the effects of the exposure to the cold water, by drinking very freely of whiskey. The Captain and whole crew pleaded with us to partake, of this supposed means of protection; but true to our own habits, we obstinately refused, and firmly believe, we suffered less inconvenience than the sturdy sons of nature on board, though never subjected to any kind of laborious employment, or hardships. Being pretty well provided with apparel, we were employed all day, while in the boat, in drying our clothes, and changing, as often as we came out of the water.

The clergymen on board were foreigners, obviously lately from Scotland, one a man about fifty, and the other not less than sixty, short of stature, and the picture of clumsiness. These gentlemen looked for exemption from this leaping into the water—this was submitted to at first, as the calls for out! out! were repeated; but when the whiskey began to play its part, murmurings, and coarse jeers, were uttered, here and there, too audible, and too plain to be misunderstood; and it was said, "that as it was not fair play, that, some should get out, while others were snug and dry on board; that no one should be permitted to remain on board, should there be a necessity for getting out again." The gentlemen of the *black coat*, bore this, believing, we suppose, that if they were treated somewhat rudely, they were in some degree compensated, by still enjoying the comforts of the boat.

Presently the call of out! out! was made by some, and more loudly than ever echoed by others, and succeeded by a harder pull than usual, and the men, now disposed to assume a good deal of the nature of the "half horse and half alligator," then common to watermen of the west, and having, at best, little respect for the ministers of the Gospel, for we do not suppose they had ever heard one preach, vociferated aloud, that every man who remained on board should be thrown overboard. Allied as they now were to the feelings of the alligator, while under the influence of the whiskey; and associated in the amphibious habit, of this animal during good part of the day, there did not appear to be much safety for our black coated gentlemen, except in a speedy compliance.

We shall never forget the patient meekness with which the younger

of the two, consented to let himself down into the water while he pleaded for his older companion. This appeased the boatmen, and with the aid of the Captain, the grey headed old gentleman, was saved from exposure. For him to have committed himself to the current, would have been death, old, timid, clumsy, and short legged, he would never have regained his place in the boat.

Such is a true description of a trip, of a few miles, on the Ohio river thirty years ago. Who could have foreseen at that period, that in a few years, this noble stream would be covered with steam boats, dashing with impetuosity up against the force of these dreaded riffles. Let the reader imagine, that in thus pushing westward, we were in pursuit of a location, where we might try our fortune in the practice of medicine, and compare this with what may be seen there at present.

Having descended some miles below Big Beaver Creek, night came on, and was so dark as to induce our captain to make for the light of a cabin on shore. Arriving safely at shore, our boat was moored, and we ascended a little hill to reach a cabin, in which we found a good fire. Its inmates, we learnt, were dependent pretty much on the occasional calls of passing boats, and were therefore glad to see us. They consisted at this time of a woman of about thirty, with eight children, the husband being out on a hunting excursion. She was the picture of health, not homely, sprightly, and communicative.

Our request to have supper prepared by her, was gladly accepted, but as she had not the necessary materials, these were soon brought in abundance from the boat. We soon sat down to supper beside a comfortable log fire, and enjoyed our repast with much satisfaction, for it was rendered doubly acceptable, by fasting and exposure.

Our youthful appearance and respectful manners to all, compared to that of the boatmen, obtained for us the good feeling of the landlady; and we readily obtained permission to repose on her bed, while the supper was preparing, to which no one took exceptions. The bed stood in a corner of the cabin, not far from the fire, there being but one apartment; and, it was constructed by a forked stick driven at a proper distance from the wall; on this were laid poles, with one end run through the wall, and on these again were laid pieces of split timber, called clapboards—a piece of plank formed either side of the bedstead; in this box lay a good quantity of oak leaves, on which were spread some blankets. On this bed, so different from any thing we had seen before, we reposed soundly, till called by the good landlady to supper. The party, after supper, made the best distribution of themselves, which the place admitted of, by laying with their feet to the fire, which was kept up during the night. We remained for early breakfast, and paid our hostess to entire satisfaction, by giving her a supply of various articles, upon which her family might subsist many days. I shall never forget the good nature of this woman of the forest; she came smiling to the boat in the morning, to bid us farewell, bare headed, and bare footed—her cheeks were rosy, and her heart apparently buoyant and easy, although she had walked perhaps a hundred yards, upon a little snow which had fallen during the night. Being once more afloat, we arrived at Wheeling without further hindrance, or meeting any thing remarkable.

We must ask our readers to extend a little forbearance towards us while we briefly note a few of the remarkable occurrences which we witnessed while we resided at Wheeling. Though our remarks may have no direct bearing on medical subjects, they may serve to show the astonishing progress of improvement in Ohio; and our residence in the west may have

had some influence in forming our judgment, since diseases of the west are not without some peculiarities, a good deal of which we have seen.

The town of Wheeling was a place of considerable business at the time we visited it, and had too pretty good settlements in its vicinity, one on the Wheeling creek, on the Virginia side, and another on a creek of the same name in Ohio, on the opposite side of the river.

The first settlers had generally given preference to lands adjacent to streams of water, and, of course, they suffered much from the miasmata of low wet situations. It is true, we see little or none of that boggy marshy soil of the Atlantic states, but there is abundant sources of febrile poison in the richness of the soil, and the changeable state of the waters. During a part of the year, the Ohio river, and its tributary creeks, are subject to high floods; these cover the adjacent bottoms often, to great extent, and, although we never see the water lodging, so as to form ponds, yet, what with the trash left upon the margins of the streams, and the moistening of a very rich soil, in the spring, so luxuriant a crop of weeds and wild grass succeed, as to form a prolific source of poison, when it falls, and undergoes putrefaction, in the autumn. To this we may add, that these waters are not more remarkable for their spring floods, than for the scanty supply of water during part of most summers—owing to this cause the waters of creeks become much assimilated in their nature to a series of ponds of stagnant water.

During our residence of upwards of two years at Wheeling, we saw much disease, partaking of every grade of bilious fever—intermittents through all grades of this form of fever; and, we may say the same of the remittent, the malignant, and the typhus:—all of which so obviously arose from the same cause, and were so often seen, in all the protean livery of bilious fever, in the same situations, and at the same time, as to leave no room to doubt of one extensive cause for all the disease, in the epidemic form, however much modified by peculiar circumstances. But as we do not intend treating upon these diseases, we shall conclude our remarks upon this part of our subject, by saying, that the lancet, calomel, blisters, cinchona, antimony, ammonia, and opium, constituted pretty much the materials of our *materia medica*.

At the time we speak of, there was no intercourse between Wheeling and Chillicothe, except by footmen, and packhorses. The Kentucky and other merchants westward, carried their money on ponies, each one carrying three thousand dollars, made up in two long rolls, and sewed in raw hides, mostly buffaloe, which, when dry, were extremely hard to open. Merchants were seen coming to Wheeling, through a howling wilderness, from Chillicothe, the distance of a hundred and sixty miles, on a solitary and narrow path, driving three, four, six, or more horses, thus loaded with specie. Sometimes with an assistant, and sometimes without; sometimes in companies. During this tedious journey, they had to pass hunting parties of Indians, and were obliged to subsist their horses, by stopping at night, and letting them loose in the woods to feed. To collect the horses in the morning was sometimes no easy task, but generally, this faithful and docile animal, guided by a little bell on the neck of their *leader*, would follow him, as he was led by his master, to the place of encampment. Notwithstanding all this strong temptation, we never heard of a robbery being attempted on this route.

We recollect perfectly well seeing a Mr. Martin, a respectable man, and a sturdy son of New England, as we believe, take his departure from Wheeling, with eight or ten axemen, for the purpose of cutting a wagon road, from this place to some distant point on the way to Chillicothe, or perhaps all the way. They were absent two or three months. At this time,

nothing like a bridge, was to be seen, from one end of this route to the other, and there being several considerable creeks, the Muskingum river, &c. and all these streams occasionally impassable, except by swimming horses over, travellers were often delayed, or subjected to danger, in crossing these rapid streams.

Soon after the road had been cut out, we had the pleasure of seeing a covered wagon cross the Ohio river, in a boat, destined for some part of the interior of the state of Ohio. At that time the great western mail was carried on horseback, from Wheeling to Chillicothe, and, we believe, but once a week. Every one is aware of the wonderful changes which have since taken place. The solitary path has given place to the broad highway, and the gloom of riding for days together, alone on horseback, when there was scarcely a cabin for each day's ride, has yielded to the four horse stages, hurrying on night and day, and both men and horses, cheered with the comforts of plentiful houses and barns.

We shall close our narrative by a brief recital of some of our professional excursions into the state of Ohio. Among the remarkable occurrences is the following. We were called seven miles into Ohio to amputate a hand, then in a state of sphacelation, in consequence of a bite by a man—the injured party, being among his enemies, was driven out in intensely cold weather, in a state of intoxication. Inflammation was suffered to progress till it terminated in mortification. In a few of our first visits, we crossed the Ohio on the ice—this soon broke up, and continued running down with the rapidity of a considerable freshet for upwards of a week. Having been caught with our horse on the Ohio side, we prevailed on the owner, of what was called the Upper Ferry, to carry us across in a canoe, (a vessel made by pointing a log at both ends, and then cutting a deep cavity in the whole length of the log.) This worthy man continued, more from feelings of humanity (though a very rugged looking son of the forest,) than from interest, as he demanded but a pittance, to carry us twice over daily, that is, going and coming, amid the drifting ice. He was well known to be the best canoesman in that neighbourhood, and of this we soon had ample proof, for, no sooner were we afloat on the rushing current, than we were surrounded with ice, often a foot in thickness, and much of it large enough to crush our canoe to atoms. No one, who has not seen the like, can conceive of the dexterity with which our waterman plyed his paddles or his pole, as circumstances might require. With the former, he rapidly ascended, or descended, or crossed more or less the current, and when threatened to be capsized by some great mass of ice, the latter was used to push off his canoe. Sometimes these exploits were achieved at the expense of drifting many yards down the current. Sometimes we were threatened to be closed in between masses of ice on either side of us, but the skill of our canoesman was sufficient to relieve from such peril. A spectator on shore seeing the zigzag of our course, amid the crashing ice, and groaning waters, would have thought us on the brink of another world, common sense could not but see danger; yet, for ourselves, we had but moderate apprehensions while we were carried forward by Obed Hardester. This we believe was this good man's name.

To the best of our knowledge and belief, Obed Hardester, and the present writer, were the only persons who crossed the Ohio for several days at either of the Wheeling ferries—the mail did not cross. Neither of us was influenced by expectations of gain, as the dangers were far too great to be encountered for the small compensation expected. It pleased providence to spare us, and our labours were rewarded by the recovery of our patient, who, probably, must have perished, had we refused to incur the

riak of crossing the flooded river. This occurrence has endeared to me the name of this good man in the buckskin hunting-shirt, buckskin trousers, and mocasins. But being a good deal the elder, we presume he has paid the debt of nature ere this. We may possibly mistake the name in part—it may have been Hardesty, and possibly he may have been a tenant. One thing we know certainly, that there was no other man with whom we would have ventured to cross the Ohio, under such circumstances, except Mr. Hardester.

We shall detain the reader with some of the particulars of but one other case.—We were called thirty miles, into the state of Ohio, to see a man much prostrated, in a case of hepatic suppuration. His residence was on the Christein creek, remarkable, near the Ohio river, for the uncommon height of the surrounding hills. Having set out rather too late in the day, we were overtaken by a night too dark to admit of our travelling over six or seven miles of a path way, running upon a very high ridge, difficult to ascend, and much more so to descend. Near the foot of this ridge, stood a vacant and lonely cabin, several miles from any habitation—here it became necessary to lodge during the night. Groping our way into this cabin without a door, and without any filling between the logs, we tied our horses to the logs, inside, with their bridles; and spreading down our great coats on the ground floor, we laid down to repose as well as circumstances would admit of. But the extreme danger of encountering the rattle snake in such a situation, and the gnawing of our horses at the logs, much lessened the chances of sound sleep. There being a little cleared land around this cabin, we were cheered in the morning, by the singing of other birds, as the whip-poor-will ceased his nightly, and more harsh notes. Arising at the dawn of day from our uncomfortable bed, we felt truly thankful for the safety of the night, and in a few hours arrived safely at the place of destination.

The situation of our patient being very critical, we remained with him till the morning of the third day after our arrival; during all which time we tasted no food, except boiled green corn, and milk, for the very potent reason that nothing else could be had. From this, we suffered much, and did not escape without some serious apprehensions from the disturbance which this diet had created in our bowels, yet, strange to tell, we believe that this, and other miserable families, in that neighbourhood, subsisted on this diet several weeks, during the season of soft corn.

A second visit was made to this wretched man, but the violence of the disease, and the inability to obtain the necessary aid from food, and nursing, rendered our efforts abortive, and he died. Were we to detail all the particulars of this last visit, they would appear more remarkable to those unaccustomed to the western wilds, than what we have related; suffice it to say, we again travelled part of the way in the night, and made some hair breadth escapes of being dashed over frightful precipices, where to have gone over would have been death. And part of the time we had lost our way many miles from any house, *alone*, in a solitary path, frequented by the bear, the wild-cat, the panther; and worse than all; by swarms of snakes at times. Surrounded by all these unpleasant circumstances we had several times to alight, and group our way on foot till we could recover the path.

Such were the hardships attending the practice of physic thirty years ago, in some parts of the State of Ohio—since which, this wilderness has blossomed as the rose; and the profession no longer subjected to the privations attending new settlements, now enjoy all the comforts compatible with their duties; and find time to cultivate the science of medicine; and

render their body of primary importance at home, and are becoming more and more respected abroad.

The most favourable auguries may be made of the future, from the past, and we know of no higher source of gratification, connected with our profession, than that of seeing the laudable efforts of the profession, to render their body respectable and useful, efficiently seconded by the good sense of the people, in their representative capacity.

*"An act to incorporate Medical Societies, for the purpose of regulating the practice of physic and surgery, in Ohio; together with the proceedings of the general Medical Society. Columbus, 1829."*

Looking into this pamphlet, we observe that a law was passed, by the Legislature of Ohio, in the year 1827, making ample provision for the creation and establishment of district medical societies, and a general medical society. At that time provision was made for twenty district societies, and it was enacted that a quorum in each district, should have power to elect one delegate, to represent the faculty, in it, to the general society, which was to hold its first meeting, on the second Monday in December, 1827. It was also enacted, that each district society should elect from among their members, not less than three, nor more than five persons, who should take on the office of censors, and whose duty it is made to examine students upon application, and extend to such as are found qualified for the practice of medicine and surgery, a license to do so. It also appears, by this act, that the legislature of Ohio, paid early attention to the medical profession, since we observe a clause in the act of 1827, to repeal a law which had been passed in 1821.

We observe an act was passed in 1825, relating to the establishment of the 21st district, and some changes of a local nature, and, therefore, having no general bearing on the subject of medical law. In 1826, an act relating to some changes of districts was passed. A special act was passed in the session of 1827, for the establishment of a new district, to be called the twenty-second district.

The several districts having sent their delegates to the convention in pursuance of the act of 1827, a convention was duly organized, on the 5th of January, 1829—we make the following abstract from the proceedings of that body.

**"PROCEEDINGS OF THE GENERAL MEDICAL SOCIETY."**

"The general medical society, of the state of Ohio, convened at Columbus, on the 5th of January, 1829, agreeably to the provisions of the constitution; when the following representative members appeared, and took their seats, viz:—

1st. District	doctor	John E. Bush,
2d.	"	John C. Dunlavy,
3d.	"	Joshua Martin,
4th.	"	Asa Coleman,
7th.	"	Edwin Smith,
9th.	"	Henry Manning,
10th.	"	Thomas Pinkerton,
11th.	"	Samuel Parsons,
12th.	"	John Cotton,
13th.	"	Robert McNeil,
15th.	"	Thomas Flanner,
16th.	"	Benjamin Dickson,
17th.	"	Hezekiah Bissel,

18th.	District doctor	Philo. Wright,
20th.	"	" O. H. Rawley,
21st.	"	" John J. Price,
22d.	"	" Robert Thompson.

"The society having been organized on the 5th, by the appointment of officers pro. tem., adjourned to the 6th, when, on proceeding to ballot, the following officers were elected; doctor John Cotton, President, John C. Dunlavy, vice president, John E. Bush, recording secretary, Benjamin Dickson, corresponding secretary; Samuel Parsons, treasurer.

Among the proceedings of the society are the following minutes; January 9th.—The society then took up the report of the committee of the whole, on the constitution, and agreed to the several amendments thereto; and the constitution so amended, was adopted as the constitution of this society.

The society then took up the report of the committee of the whole, on the by-laws; which was agreed to, and adopted as a code of by-laws for the government of this society."

And it is said, in the pamphlet containing the above proceedings, that "the following is the constitution as amended."

*Constitution of the General Medical Society of the State of Ohio.*

"At a General Representative Convention, held in the town of Columbus, in the month of December, A. D: 1827, agreeably to an act of the General Assembly of Ohio, entitled "An act to incorporate Medical Societies, for the purpose of regulating the practice of physic and surgery in this state," it was deemed expedient to establish a General Medical Society of the state of Ohio, in order to produce uniformity and efficiency in the proceedings of the District Medical Societies, and for the promotion of medical science: The following Constitution was adopted for the government thereof.

**ARTICLE I.** *Sec. 1.* The General Medical Society shall be composed of Representative and honorary members.

*Sec. 2.* The Representative members shall consist of one Representative from each of the District Medical Societies, who shall be chosen on the last Tuesday of May; and on their being convened in consequence of the first election, they shall be divided by lot, as equally as may be, into two classes; the seats of the delegates of the first class, shall be vacated at the expiration of two years; and on those of the second class, at the expiration of four years: so that one half thereof, as nearly as possible, may be chosen biennially forever thereafter. And all vacancies which may occur in the Representative members, shall be supplied by the District Medical Societies.

*Sec. 3.* The honorary members shall be chosen by the General Medical Society, from time to time, as they shall think proper; and shall be entitled to all the privileges of Representative members, that of voting and receiving compensation for their services, excepted.

**ARTICLE II.** The Society shall meet biennially, in the town of Columbus, on the first Monday in January; and a majority of Representative members, shall constitute a quorum for the transaction of business. The first meeting shall be on the first Monday in January, one thousand eight hundred and twenty nine.

**ARTICLE III.** *Sec. 1.* At the opening of each stated meeting, the Society shall proceed to elect from among the Representative members, a President, Vice President, Recording Secretary, Corresponding Secretary, and Treasurer; who shall hold their offices for two years, and until their



successors are chosen. All elections shall be by ballot; and each Representative member shall be entitled to one vote.

Sec. 2. The business of the meeting shall be concluded by a discourse or dissertation on some medical subject, to be delivered by a person appointed at the stated meeting preceding.

ARTICLE IV. The President shall have power to call special meetings of the Society, whenever its officers, or a majority of them, shall deem it necessary; in which case, public notice shall be given in some newspaper, as specified for the stated meetings; and also special notice shall be served, through the medium of the post office, on all Representative members of the Society, at least six weeks before the time of meeting. He shall have power to fill all vacancies in office, that may occur during the recess of the society; he shall appoint committees, regulate debates, put questions, enforce an observance of the laws and regulations, have a casting vote on all questions before the Society, and perform such other duties as may be assigned him.

ARTICLE V. The Vice President, in case of the death, resignation, disability, or absence of the President, shall hold and exercise all the powers set forth in the preceding article, until a new choice of President.

ARTICLE VI. The Recording Secretary shall have charge of the laws, records, and seal of the Society; shall notify the chairman of committees, furnish necessary papers, and the names of committees. He shall give six weeks previous notice of the stated meetings of the Society, in some public paper printed in Columbus, and perform any other services required of him by the Society.

ARTICLE VII. The Corresponding Secretary shall have charge of the letters and communications transmitted to this Society; shall cause all papers written in a foreign language to be translated into English; shall, under the direction of the President, answer all communications made to the Society; shall notify the District Societies of all resolutions governing them, passed by the Society; notify all honorary members of their election; and shall perform all such duties as may be assigned to him by the Society.

ARTICLE VIII. The Treasurer, before entering upon the duties of his office, shall give bond with sufficient security, conditioned for the faithful performance of his official duties, in such sum as the Society shall direct; which bond shall be approved by the Society, and deposited with the Recording Secretary. He shall account to the Society for all moneys, and on the first day of each stated meeting, shall exhibit an accurate statement of his accounts to the Society. He shall pay out no moneys without the order of the presiding officer, and consent of the Society.

ARTICLE IX. Any officer of the Society may resign his office, or be removed therefrom, for neglect or mal-conduct in office.

ARTICLE X. The Society shall, from time to time, determine the amount of revenue to be raised, which shall be derived from uniform taxation upon all licenses granted by the District Societies, and, if necessary, upon the individual members thereof. It shall also determine the amount of compensation of its own members, which shall be paid out of the treasury of the Society.

ARTICLE XI. This Constitution may be revised, altered, or amended, by a vote of two thirds of the Representative members present, at any stated meeting of the Society.

**BY-LAWS.**

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1. The President shall take the chair, at the hour to which the Society adjourned, and call the members to order; on the appearance of a quorum the journal of the preceding day shall be read by the Secretary.

2. The President shall not speak to any question, without first obtaining permission.

3. If a member has spoken once in any debate, he shall not speak to the prevention of another, who manifests a desire to speak.

4. No member shall speak more than twice to the same question, without leave from the Society.

5. A member shall not interrupt another while speaking, unless to call him to order, or correct a mistake.

6. The President shall decide questions of order, subject to an appeal to the Society, by any two members: on which appeal, no member shall speak more than once, without leave of the Society.

7. No member shall speak on any subject after the question is put.

8. No motion shall be considered unless seconded.

9. A vote shall not be reconsidered by a smaller number than were present at its passing; and the motion to reconsider shall come from a member who voted in the majority.

10. After a motion is made and seconded, it shall be stated by the President; or being in writing, shall be handed to the chair and read.

11. Every motion shall be reduced to writing, if required by any member.

12. A motion to adjourn shall always be in order, unless a member is speaking, and shall be decided without debate.

13. Each Representative member of the Ohio State Medical Society, shall receive for his services three dollars for every day's attendance on the meetings of the Society, and three dollars for every twenty-five miles' travel, to and from the place of meeting.

14. At each stated meeting of the Society, a committee of three members shall be appointed, to audit all accounts against the Society; and all accounts so audited, shall be paid in the manner provided by the eighth article of the Constitution.

15. No application for a new Medical District, shall be acted on in this Society, unless six months' previous notice has been given, by at least one insertion in one or more newspapers, published in each district out of which such new Medical District is proposed to be formed. No new Medical District shall be formed which shall contain less than twenty-five members; or reduce an existing Medical District to a less number than twenty-five. And every application for a new Medical District, shall be by petition to the State Medical Society.

16. There shall be a committee of Revision and Publication appointed by the Society, whose duty it shall be, to examine all papers, essays, and communications, which may, from time to time, be received by the Corresponding Secretary, and report what papers or documents they may deem worthy of publication; and who shall superintend all publications which may be directed by the Society.

17. Honorary members shall be elected by a vote of three fourths of the members present, at any stated meeting.

## OBITUARY.

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IT devolves upon us, in compliance with a part of our plan, to announce the death of two members of the State Faculty, since the publication of our last number.

Died on the 23d. of August, 1829, JOHN BEALE, DAVINEX, A. M. M. D., aged about 60 years. Doctor Davidge was long a distinguished member of the medical profession—having devoted himself in early life to classical studies, and afterwards pursued the study of medicine with much zeal, both in Europe, and at home, he acquired the necessary scientific knowledge; and, his early associations in life, together with a pleasing address, and very remarkable colloquial powers, rendered him a peculiarly fit instrument for founding a medical school, upon the munificence of the State.

Having collected to his aid the necessary associates in the professorial departments, it was by his efforts, and his high professional character, supported by the friendship of many men of influence in the state, that he was enabled to found a school of medicine, in Baltimore, which he lived to see flourish, and in which he officiated nearly twenty years.

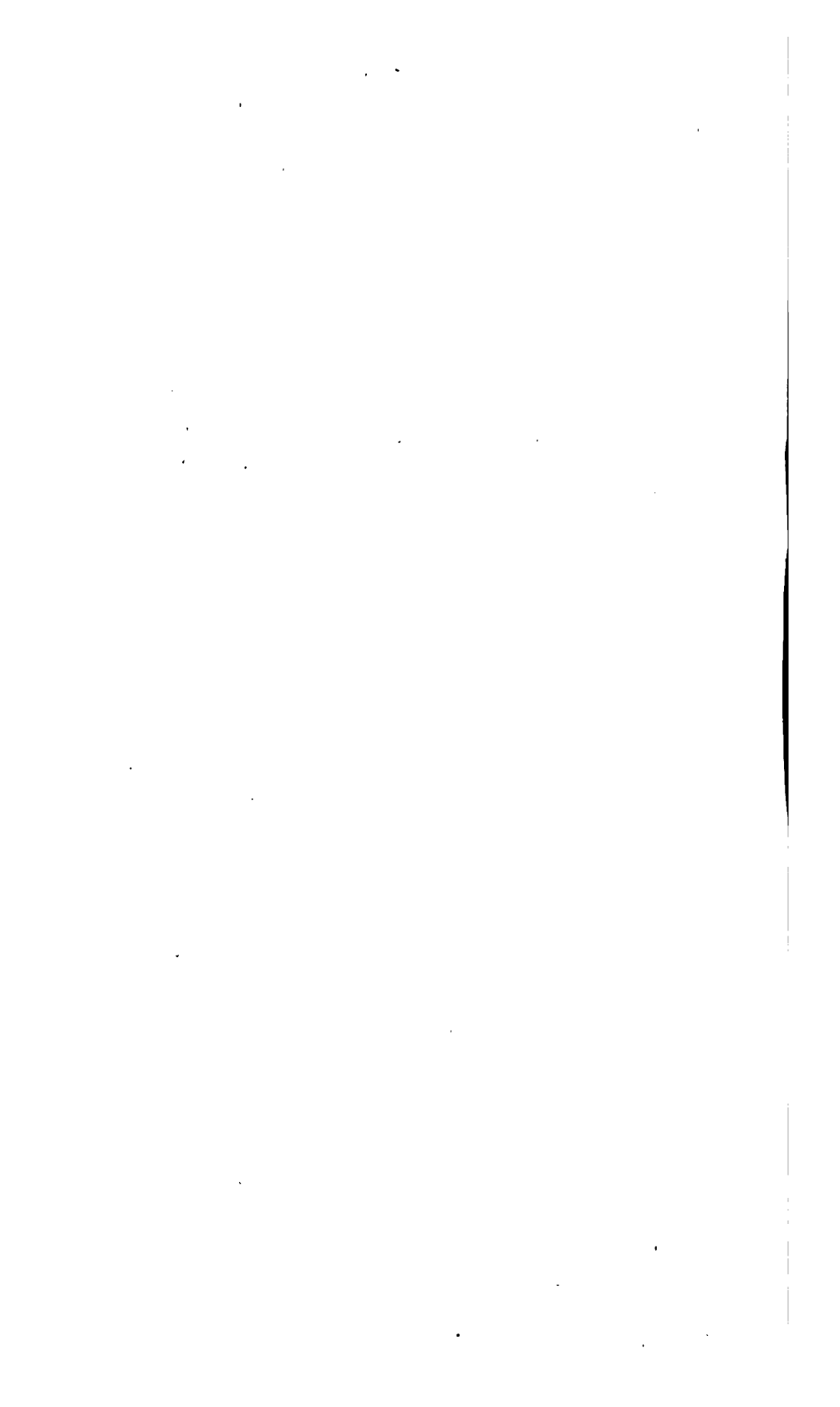
Early in the year of his death, he was attacked with an affection of the face, extremely painful, and for a considerable time of doubtful character. It eventuated in a malignant tumour, which gradually enfeebled his constitution, and he fell a victim to one of the most painful and intractable diseases. Is there a heart in our ranks so cold as not to heave a sigh over devastation like this !

Died on December 24th, 1829, JOHN STAFFORD, M. D., aged 28 years. Rarely has there been a greater promise of future excellence, as a physician, and philosopher, than that exhibited in the brief career of our departed brother. His mind was richly imbued with all the knowledge bearing upon his professional pursuits; while he diligently studied man, in all his physical relations; he laboured with equal zeal to acquire a knowledge of his moral and intellectual endowments—in the latter, his attainments were remarkably conspicuous.

Alas ! the labour of preparation, for future eminence and usefulness, was, perhaps, too arduous for even his strong mind.—From this cause, and several untoward events, his intellect became impaired; and after a tedious illness of mind and body, he fell a prey to unsparing death.

As a man, doctor Stafford possessed all the domestic and social virtues, that can adorn the human character. One, who knew him well, feels every assurance, that had he been spared to maturer life, he would have been a distinguished member of the profession, and conspicuous in all the various relations of life.

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THE  
MARYLAND  
**MEDICAL RECORDER.**

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**ORIGINAL ESSAYS.**

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*Observations on Irritation founded on a Physiological and Pathological view of the subject.* By HORATIO G. JAMESON, M. D.

**T**HE term irritation, it will be recollected, is derived from the Latin word "irrito," to provoke, tease, &c.—It would seem to follow, that a proper application of this term can only be made, where there is some aberration from perfect health, in some part or the whole system. It must therefore be wrong for Girtanner, Haller, Cullen, Darwin, and others to ascribe common functions, such as muscular or arterial action to irritability. It appears to me, that this term has been used in a very loose sense, and in order to correct inaccuracies, it seems desirable to give a more definite meaning to it. To do this we must take a glance at the animal economy. It is only by understanding something of the healthy functions, and of the principles manifested in the phenomena of animal life, that we can understand those changes of function, and the disturbances of those principles in a state of disease, so much of which we refer to irritation.

It would, therefore, seem proper in investigating the subject of irritation to speak of temperaments and idiosyncrasies.—Under these heads we can suitably and conveniently speak of the animal economy, so far as is essential to our present purpose.

The word temperament has been used from the dawn of medical science, for the purpose of reducing all mankind, for physiological distinction, into a very few classes.—These have been variously named and divided, but the most common divi-

sion, has been into the sanguine, melancholic, and the phlegmatic.

There is a combination of circumstances connected with the form, &c. of man which convinces us that these temperaments do exist in nature, and indeed, so obviously, as to appear not only in family likenesses, but even, in a national aspect. Yet if we sit down to reduce these circumstances into classes, we shall find so much admixture, that we do not find it profitable to pry curiously into different temperaments; nor, indeed is it practicable; yet we ought not to lose sight of them. One thing is certain that they do exist, so far as to separate mankind into a few different classes, and our indications of cure in diseases, should have reference to these peculiarities.

Idiosyncrasy has sometimes been confounded with temperament. They are too obviously different to be thus admitted in the present day. Idiosyncrasy, as the term imports, instead of reducing to classes, applies to individuals.

I have been induced to think that all the circumstances which seem to lay a foundation for the understanding of temperaments and idiosyncrasies, may be conveniently examined under the following heads substituting contractility for irritability.—These are, 1st, the condition of the simple solids—2d, the state of the fluids—3d, the distribution of the fluids of the body—4th, the state of the nervous power as manifested in sensibility; contractility, (usually called irritability) “strength and weakness.” In the investigation of this arrangement, I shall offer a brief outline of my own views of animal life.

*Introductory Remarks.*—Animal life precedes organization. This we may infer from the circumstance, that the germ of the future animal is not invested with any visible organization, and yet this germ is endowed with a vital principle which leads to growth, and controls that growth, so far as to lead to more or less likeness to one or both parents—to be seen sometimes in the lineaments of the face, sometimes in the general form of the person. This first modification of a vital principle is well expressed by the familiar term, *vis plastica*.

The *vis plastica* having conducted the germ to a certain extent of organization, a new modification of the vital principle is developed. This new principle may be seen in the pulsatory motion of the heart. The heart has long been considered the “*punctum saliens*” of the embryo. The pulsatory motion of the heart sets into operation a vascular circulation. The power by which this system is actuated has been named the *vis a tergo*.

The *vis a tergo* acting upon a distributive vascular system becomes an auxiliary power to the *vis plastica*. These two are the powers by which the body is organized and afterwards sustained through the whole term of life. By the operation of these powers upon the material furnished in utero by the parent, the various systems of the animal body are successively formed, and when the animal machine is thus perfected, we see a third modification of the vital principle, acting upon the muscular system. This has been named the "*vis insita*," and takes place in the human fetus about the fourth month of gestation, and is known by the term, quickening. The *vis insita* becomes at some period of life, not easily ascertained, the medium through which, acts of volition are effected.

In these three modifications of a vital principle we have all the powers or energies, necessary for all the corporeal operations of the animal machine.

The *vis plastica*, *vis a tergo*, and the *vis insita* having conducted fetal life to a perfect state of formation, there is manifested at some period not easily fixed upon, (or it may be a little anterior to the completion of form,) a fourth modification of the vital principle.

This principle has been called sensibility. We shall find upon examination, that this is a guardian and helping power, and is so considered by Magendie and many others. By sensibility, animals are apprised of hurtful agents applied to any part of the body; particularly those most exposed, which include all the superficies without and within. Sensibility also enables us to hold intercourse with the external world, as, it is through this medium that the several senses awaken and exercise our mental powers.

These four modifications of a sensorial power fulfil all the purposes of animal life. Physiologists as Haller, Cullen, Darwin and others, after Girtanner, have called in irritability as a property belonging to a healthy condition of the animal economy. We have, however, a ready explanation, in the experiments made by Haller and others, of the origin of this notion. It was ascertained by experiment that the heart might be made to continue its action, and the circulation be kept up after decapitation, (and according to the experiments of doctor Philips, even after the destruction of the spinal brain—these experiments differ from those of Le Gallois, and being of late date had no bearing on the main question.) Seeing then that the heart did not lose its motive power notwithstanding the nerves connecting it directly with the brain, were cut off, they concluded

that as the heart is a muscular structure its motive power must be supported by some other principle. This they named the *vis insita*, and concluded too hastily that all the muscles were endowed with this power and independent of the nervous power. Richerand ascribes this action to a nervous matter not directly dependent on the nervous cords. We must not forget however that Cullen, while he gives place to irritability as one of the modifications of a vital principle, attributes all the powers of the animal body to the brain and nervous system.

If the positions which I have advanced, be admitted, there will be no difficulty in explaining why the motive power of the heart is not destroyed by division of its larger nerves. If we believe that the germ has its embryon sensory or principle of life, that to this is added a propulsive power, by which the fluids are circulated, we need proceed no further in the investigation of the remaining modifications of the sensorial power to account for the growth of the body. The *vis a tergo* which operates upon the heart and vascular structures before any of the voluntary muscles are formed, serves all the purposes of the animal economy connected with the business of circulation.

I do not admit with Haller, that this principle is independent of the *vis nervea*;—it is sufficient for the present to say, that it is not directly dependent upon the larger nervous cords. Doctor Wilson Philip's experiments show a connection between the brain and heart—uncovering the brain and pouring on spirits of wine, affected the action of the latter organ.

Each tissue, as a system, all physiologists will admit, has its peculiar organization,—and I think it must be equally evident that when a vital principle is diffused through these different tissues, there must be a modification of that principle to suit the economy of each part or tissue. It follows, that as the vascular system including the heart, as its "*primum mobile*," is an important and distinct system, that it must have a nervous or sensorial energy of its own, and this is the *vis a tergo*. Why should we attribute the heart's action to a *vis insita* like that of other muscles, seeing there is no agreement in the phenomena, seen connected with them respectively.

I have had occasion to speak thus far of a sensorial power or vital principle without an opportunity of giving my opinion of the nature of this power. All physiologists admit that in the more perfect animals there is a common sensory—the brain and nerves. The brain is formed of cortical and medullary parts—the nerves of neuralema and medullary matter. The



medulla is distributed most probably to every corpuscle of which our bodies are formed. This may be inferred from the fact that we cannot introduce the finest pointed needle into the skin, without giving pain. And the seeming objection to this seen in the insensibility of tendons, cartilages, &c. is removed upon seeing these structures in a state of irritation or inflammation. There is much reason for believing from an examination of the economy of these structures that they in particular, and all other parts, are so constituted as to have a portion of medullary matter interstitially placed and holding communion with the nerves and brain by nervous filaments entering into the medullary matter, so that there may be a capacity for sensibility, where there are comparatively few nervous filaments. We are assured by Richerand that nerves cannot be traced into some structures. In a cartilage or bone, I imagine there is a paucity of filaments, but there is nevertheless a provision of medullary matter which has been named by doctor Good medullary molecules. This will account for the lesser sensibility of these structures and for the terrible consequences which arise from their being thrown into a state of irritation or inflammation. We cannot trace the capillary vessels to their terminations, and the nerves may also be too fine to be traced.

*The simple solids.*—I do not deem it necessary to go into any particular examination of structures.—It is not essential to our present inquiry whether the various solid structures are resolvable into cellular or fibrous parts—both opinions have been advocated.

It is a self-evident position that the peculiar form of each individual depends upon the simple solids—but it is equally true that this form depends upon some peculiarity of the vis plastica which so obviously exists and operates before there are any solid structures formed. We see the parent giving to the offspring an impulse or vital principle which shapes the simple solids into family likenesses, and into national likenesses. If then the individual is characterized by peculiar arrangements of the simple solids, including a nervous system, it will follow, that these solids constitute one of the principal circumstances, tending to give a peculiar temperament. We shall find upon inspection, that while every individual has his own peculiar external and general form so marked as to establish his identity, that still in all there are a few leading characteristics, which give certain resemblance in one portion of mankind; and to another portion, other resemblances, and hence we may have

several classes or groups each having well marked differences; and hence it is that the ancients attempted a separation of the human family into temperaments, by which they mean, that there is a tout ensemble in each class which leads to some difference as relates to sensibility, mind; the effects of certain aliments and medicines, as well as to a modification of diseases.

I cannot enter here into further explanation, it is only necessary for my present purpose to suggest the advantage, nay the necessity of studying this subject by observation upon persons in health, by reading authors, and by attention to the subject at the bed-side of the sick, since, there can be no doubt of the fact that different temperaments do exist in nature.

It is one of the peculiarities of the simple solids in the animal body that, in each individual, there is, from youth to old age, a well marked degree of tone or strength; or the want of it, which does not materially alter, during good health, except so far as strength is gradually altered at different periods of life. Thus, a man whose simple solids are modelled into that form which affords the most strength will be characterized, by the peculiarity of strength, until disease or old age shall weaken his constitution. And so of the individual whose construction is more or less deficient in strength, at the period of full manhood; it will continue through life. But although these extremes afford well marked differences by which we have two classes, still such is the number of intermediate conditions, that, we can only distinguish those persons whose strength or weakness is pretty evident.

Another peculiarity attending the condition of the simple solids is, that of a very evident difference in regard to strength, between the male and female in the human family, and, yet although, this as a general fact is strictly true and undeniable, yet so much do individuals of the different sexes differ from each other, that we see many men whose strength is inferior to that of some women, all being considered in a state of sound health.

Some of the external appearances, which give some indication of the strength of the solids, it may not be amiss to notice.

In the sanguine temperament the hair is of the lighter colour, including the red, and is soft or fine—complexion ruddy or fair—eyes light, as blue, &c.—inclined to fatness—disposed to perspire freely upon exercise—mind unsteady, being liable to rapid changes from mirth to an irritable state. And, lastly, there is a fairness of the skin, indicating a less vigorous stamina or solid fibre, than in the melancholic temperament, this class of course, peculiarly liable to irritations.

The melancholic temperament is pretty much characterized by appearances, the opposite to those of the sanguine.—Hair harsh and dark—skin coarser and darker—heart, though stronger less sensible—mind less cheerful, but more steady. And lastly, a well marked superiority of strength over the sanguine.—Nothing can be more obvious than the advantage which the medical practitioner may derive from careful attention to these characteristics, by which he will find all his patients referable, with more or less facility to some one of these classes.

It has been said that the phlegmatic temperament is rather characteristic of some aberration from health. It will often be difficult to distinguish a tendency which occasionally prevails in both the sanguine and melancholic temperaments to run into the phlegmatic. This is mostly an individual affair, and without any clearly marked cause—in some instances it is the effect of intemperance—the consequence of a feverish habit or the effect of climate. This last cause would seem, in some instances, to afford good grounds for believing, that a people of particular countries may become phlegmatic in their constitutions, both corporeally and mentally. The Hollanders are proverbially known as phlegmatics. Yet many of them do not lack in genius and in good health.

It will follow, that while the observation of doctor Cullen seems to be correct, that the phlegmatic temperament is not easily recognized, when the remark is applied to most countries, that, still, in some other countries, such temperament does exist, and was therefore no doubt known to the ancients. And further, though uncommon in this country, yet, there are well marked cases of the phlegmatic temperament not incompatible with comfortable health. This temperament is mostly, strikingly distinguished by some weakness or imperfection in the fluids. Doctor Rush has therefore correctly said that doctor Boerhaave was led into his humoral pathology, chiefly by the fact of seeing among his patients so much skin disease. Speaking of different theories in medicine he says, "doctor Boerhaave lived and wrote in a country in which a moist atmosphere, and an excessive quantity of unwholesome aliment had produced an immense number of diseases of the skin. These were supposed to arise from an impure state of the blood, and hence lentor, tenuity, and acrimony in that fluid, were supposed to be the proximate cause of all the diseases of the human body." Before quitting the solids, it seems proper to notice the opinion of Richerard, that the fluids make about five-sixths of the body.—Magendie makes the solids still less, and doctor Mil-

ligan says that some of the mummies found at Teneriffe, weigh but seven pounds.

*The condition, of the fluids.*—Of the animal fluids it must be confessed, we have but an imperfect knowledge either in a physiological or pathological sense. But the fact with which we set out in the present investigation, that the dawnings of life exist in a fluid state, shows that it is through the medium of fluids that nature gives the first impulse to animal life. And nothing is more manifest than that the healthy state of the fluids, which exists during fetal life, must continue during after life.

Upon a superficial view of the animal economy we have the appearance of the phenomena of life being accomplished by the living solids. Thus we speak of secretion and excretion as the result of certain vascular operations—of the arteries depositing osseous matter, &c. But let us go a step further and we shall see that these very vessels are the subject of perpetual renewal, and how can we account for this renewal but by admission of the fact that the plastic power is resident in the fluids. If it does reside in the germ and leads to the organization of the embryo, how can we doubt its influence and operation upon the body, which we know is incessantly changing the corpules of which each and every structure is formed.

It is true we have vessels of ingress and vessels of egress to every corpule of the living solids, but while the former vessels deposit material of accretion, or add something, the latter must take away a proportional quantity of recrementitious material. Can it be conceived then, that the living solids in any of the forms we recognize them as structures, pick up this new something in any other way than through the agency of the fluids, which in their healthy state contain plastic or formative powers?

I cannot go into any examination of these animal fluids, but every one knows, that the blood is the grand pabulum of all the structures. And it turns out (notwithstanding the attempts of Mr. John Bell to throw ridicule on the subject) that the assertion of the sacred penman, that, “in the blood is the life thereof,” is strictly true.

Whether we look at the formation of the earth, of animals, of vegetables, or at mineral organization, we every where see fluids as agents, without which, none of the phenomena by which they were respectively formed, could have been operative.

In the animal body the chief difficulty seems to arise from the fact of aggregate life showing a perceptive condition. But

does medullary matter, cortical matter, or neuralema, possess either life or perceptive existence, without the presence of the plastic fluids? certainly not, and the error seems to lie in looking to the blood for a sentient or perceptive vital principle, which is the attribute of aggregate life only. And, because, we do not discover, a sentient, or a perceptive principle in the blood, it has been condemned as a mere dead mass, and has been spoken of as a stimulant.

This view of animal life, I think, attaches importance to the arrangement which I have made of the sensorial or vital principle. Let us view the parts of an animal body as they are invested with their respective powers; first as the *vis plastica*, to the accretive fluids; the *vis a tergo* to the action of heart and vascular system—the *vis insita* to the muscular power, and view sensibility as a condition superadded, not for the mere existence of the animal, but for the purpose of connecting it with the external world—and we shall cease to look to the blood for aggregate life, or to the heart for a *vis insita*, which is only bestowed upon incitive or voluntary muscles, and through the nervous cords.

It need not be told in the present day, that the animal lymph is a plastic fluid—this has been so fully manifested by the experiments of John Hunter—was so well understood by Scarpa, and hundreds of others, that we need hardly refer to the daily occurrence of parts growing together, where inflammation occurs, both in wounds, and in internal disease.

In a word, aggregate life being dependent upon different structures and different modifications of a vital principle, to suit each, it is unphilosophical to look for aggregate life, in any one structure; it does not reside in its integrity in any one, not more in the nerves than in the blood.—In the former resides most conspicuously sensibility, both sentient and perceptive, in the latter, the *vis plastica*. But as there cannot be sensibility without nerve and brain, neither can there be nerve or brain without the *vis plastica* and all the other powers.

The theory of doctor Boerhaave, founded as we are told, on the fact of a diseased state of the fluids in the country in which he wrote, is a proof, if any proof be necessary, that there is a liability in our bodies to more or less deterioration in the plastic fluids. That there is foundation for the opinion of a scorbutic diathesis, free from any well marked disease till long neglected, I am well satisfied. Other diatheses no doubt exist, since it is well known that the three main component parts

of the blood, its red globules, coagulable lymph, and serum differ considerably in different individuals, and in the same individual at different times.

*The distribution of the fluids.*—I have now to notice the third division of my subject, the circulation of the fluids through the body. I have already slightly noticed the fact of the heart in the embryo, acting as a salient point in a circulating system, even before the brain is formed. If we see the animated vesicle in utero gradually advancing in the sphere of life, and conducted by a vis plastica to a state of organization; and find that the first clear indication of organization, is the heart and larger vessels; and, the heart in motion before the brain is formed; and if we find by experiments which have been made upon living animals, that the heart still acts independently of any direct connection with the brain, why should we hesitate to recognize a peculiar power associated with the function of the heart and vascular system, from the period of their development to the cessation of life. This power has been termed the vis a tergo.

Fetal life having arrived at its acme, and the child thrown upon the world to shift for itself in regard to its animal existence, a respiratory apparatus is brought into consent of action with the heart and circulating system. But a little reflection will bring us to perceive that the respiratory apparatus is not less associated with the vis plastica than the vis a tergo. The first perceivable effect of breathing, are those changes in the blood, by which it is made a suitable pabulum for the growing structures. I have not room to pursue this part of our inquiry, but it is manifest that the process of respiration is absolutely essential to all the powers and functions of the living body. It is however, wrong, as has often been done, to consider the motive power of the organs of respiration, as under the same vis insita with the heart, merely because these organs both act involuntarily under ordinary circumstances. The resemblance however, will not hold, we have no control over the heart whatever, whereas we can suspend respiration for a considerable time. Those miserable men who dive for pearls, we are told, can remain under water half an hour or more. Besides, notwithstanding that respiration goes on during sleep, and wholly independent of the will, we know by the experiments of Monro the elder, that the action of the diaphragm is dependent on the phrenic nerves. Doctor Monro by pressure upon these nerves could interrupt the action of the diaphragm, and by stripping down the nerve some inches between his thumb and finger, he

could temporarily interrupt motion, and hence concluded that the nerves were pervaded by a nervous fluid, when others maintained that the nerves are vibrating cords. Accident and experiment connected with the phrenic nerves, also prove, that respiration is dependent upon the nervous cords, though not on volition.\*

It is certain that the heart and arteries, muscles of respiration, the muscular coats of the stomach and intestines, are all endowed with a power of contraction—this has been ascribed to irritability, and the fluids and substances by which they are put into motion, have been termed stimuli.

I have elsewhere said that irritation is incompatible with entire soundness of parts. Yet it is certain that these several structures have excitable properties, and that certain agents, as the atmosphere, blood, &c. excite them into action. But as we have so generally used the word irritation in pathology, I prefer rejecting it from our physiological vocabulary and use in its stead the term contractility.

The heart and arteries are endowed with the quality or property of contractility, this property arises from a peculiar organization, a part of which is a molecular medulla. The diaphragm and intercostal muscles are endowed with the property of contractility dependent upon peculiar organization, a part of which is a molecular medulla associated with the brain by nervous cords not directly dependent upon the will.

The intestinal tube has its property of contractility, as the result of peculiar organization, a part of which is a molecular medulla connected by means of nervous filaments to the ganglionic or sympathetic system of nerves.

For the continuance of these phenomena it is necessary that a set of plastic operations be continually going on, by which the whole fabric is kept in its state of aggregate life. While these plastic operations continue in their integrity, all the phenomena, I have just named, will continue—they all originally

\*It may not be uninteresting to give his own language; speaking of this experiment, he says, it "is the experiment of Bellini and Pitcairn, which I have often done with exact good success, it is this.—After opening the thorax of a living dog, catch hold of, and compress the phrenic nerve, immediately the diaphragm ceases to act, remove the compressing force, that muscle again contracts. Grip the nerve with one hand some way above the diaphragm that septum is inactive; then with the other hand strip down the nerve from the first to the diaphragm, this muscle again contracts. After once or twice having thus stripped the nerve down, or exhausted the liquid contained in it, the muscle no more acts, squeeze as you will, till the first hand is taken away or removed higher and the nerve stripped i. e. the liquid in the superior part of the nerve have free access to the diaphragm or is forced down to it when it again will move."

grew out of these operations and are sustained by them. Thus, while the muscles of respiration are connected with the brain by means of certain nervous cords, and the atmospheric air can be inhaled, we shall breathe. While the heart has its medullary molecules, and is by these remotely connected with the brain, and has its other associations with the sympathetic system, its action will continue, &c. All these phenomena and circumstances are connected with the action of the heart. But while the action of the bowels and of the muscles of respiration are in operation as auxiliaries, the heart has its own peculiar economy, the tout ensemble of which cannot be better expressed than by the term *vis a tergo*. By this power the blood is, so to speak, driven into the modelling hand of the *vis plastica*, new molecules left and old ones pushed off to some waste-gate as the *scoriæ* not fit for the business of the refining, which is effected by the nervous power.

I have in the fourth division of our subject, to make some remarks upon the state of the nervous power as manifested in a state of sensibility. I have already said, that I view this as a guardian or helping power. That it is by this we become related to external objects, enjoy all our pleasures and endure all our pains. It seems necessary here to object to the common use of the terms sentient and perceptive, as being synonymous. Strict language has no synonyms; and an attention to these terms will satisfy us, that by *sentience*, we rather mean an aptitude, a living quality, which elects into use things suitable; while by the term *perception* we go a step further, and mean to express the idea of consciousness, to more or less extent.\*

Admitting this explanation of terms, I would then say, that all the powers of the animal system, which have been considered by Bichat, Magendie and others, as belonging to organic life in distinction to animal life, are operations effected by a sentient power, in which there is no perception. We have no clear perception of the operation of the plastic power, nor of the circulatory, nor of the peristaltic—these are phenomena referable to a sentient quality. But all the structures upon which these powers act, have their nerves of sensibility, and consequently may be made to feel pain by violence offered to them, but in their ordinary operations there is no perception, and therefore, wherever there is perception in any of these structures, they are in a state of supersensation or irritation.

\* We are aware that the definitions of our dictionaries, do not correspond with our explanation. But we speak of a sensitive plant—not of a perceptive one. This distinction with the explanation which we have given, we trust will be sufficiently intelligible.



The operation of the senses, or of the will, is through the medium of sensibility, but in all these cases there is more or less perception. By habit we may be brought to perceive some of these operations but slightly, or perhaps, at times, not at all; but nevertheless it is evident, that all the operations of the senses and volition are upon that property which we call sensibility, and which when applied to the structures said to constitute animal life, are attended with perception. To remove all ambiguity, it is only necessary to view sensibility as existing under two modifications, sensitive sensibility, and perceptive sensibility, all of which may be resolved into and expressed by the term excitability. Each system and each tissue has its peculiar excitability which fits it for receiving its proper stimulus, and hence an excitement suited to each. The food excites the stomach, the chyle, the lacteals, the air, the lungs, the blood, the heart, &c. through the medium of sentient sensibility.

Of the vital principle we cannot presume to know any thing except by its effects. We may remark however, that as in some of the lower orders of animals we have all the purposes of life carried on by a sensory consisting of medullary molecules alone, so in the embryo of the more perfect animals, life exists some time, and growth and organization progress under the influence of a molecular medulla. This molecular medulla and its associated common molecules being the offspring of perfect animals, derive from these a vital law which never ceases its operation till death; and one of the conditions of this law is, that as the various parts become suited to other parts, so is this governing law made to diversify, to suit each structure.

In a word then, I believe every animal has within itself the power of preparing a subtile matter which acts as the vital principle, and is common to each kind. That in man there is superadded, to this, an immortal spirit, which does not now come under our examination. I, therefore, believe with Darwin, that the sensorial organs extend through the individual, so much as to partake of the figure of the whole, and these sensorial organs are kept in a state of integrity by the operation of the brain and ganglionic system, as a discerning apparatus; where, a nervous fluid is formed, and from thence distributed to the different parts of the body.

It follows that while all the tissues continue in their integrity death cannot take place, but it is one of the conditions stamped upon animal life, by the God of nature, that in addition to the various casualties by which they are likely to be cut off, the organization and laws of action are such as to lead to death. We

need not therefore look with surprize at the fact, that the destruction or withdrawal of a principle which is not cognizable to our senses, should lead to death and dissolution of the body. Neither of these ever takes place till the machine is impaired. This may be more or less rapid, and the impairment may be invisible—it may nevertheless be corpuscular derangement, or it may be owing to a sudden deterioration of a subtile matter, without which existence cannot continue an instant, and which the brain may not secrete, owing to corpuscular derangement which we cannot discern upon dissection. The prussic acid destroys life instantly without visible lesion, and may therefore be supposed to subvert the vital principle.

Nature has doomed the animal creation to death, but has provided for its continuance by a generative power. This we need not further notice than merely to say, that in the exercise of this power all the sensibilities, and all the animal powers are called into operation; and, as if to guard against degeneracy, this power is confined to the more vigorous periods of life. This property of our nature has been considered by many physiologists as one of the grand divisions of the vital force. Magendie divides the phenomena of animal life into three sets of functions. 1st. Functions of relations, embracing sensibilities, as seeing, feeling, &c. 2d. Functions of nutrition, &c. 3d. Functions of generation. But nevertheless, Magendie, as well as Richerand adopts and defends the doctrine of a twofold life, as started by Dumas, and improved upon by Bichat, who had the ingenuity to send it forth to the world in such a captivating form, as not only to get credit for the invention, but to give much eclat and durability to a doctrine too flimsy to be much longer upheld. Indeed, when closely examined, it proves nothing but that there is a set of tissues which enables animals to hold intercourse with surrounding things, and another set of tissues, which serves to keep up the internal phenomena of life.

Richerand copying from Bichat says, "too systems of organs very different in their uses, and in their qualities, enter into the composition of the human body—they are as two living and united machines—the one formed by the organs of sense, the nerves, the brain, while the muscles and the bones serve to maintain its connection with external objects—the other, destined to internal life, exists in the digestive tube, and the organs of absorption, circulation, respiration, and secretion."

Here is an attempt to arrange all the vital functions as associated with the brain and nervous cords; and those which are dependant on the ganglionic or sympathetic system. But so closely are these two systems associated, so mutually dependent,

that the foundation for distinction is extremely slender. That these organs, as classed, are associated with the divisions of the sensory allotted them is evident; but animal life after all is most certainly but a unit. We may as well expect to see two complex machines, with their several parts, and various movements, running within each other, in a state of harmony, as to look for two separate sets of organs which "are as two living and united machines," as expressed by Richerand.

Cullen, and others, adopted the division of animal, natural, and vital functions, but it has been correctly said, that all the functions are natural, all vital, all animal. Aggregate life is only existent in a complex machine, all divisions of functions, powers, &c. are arbitrary. And therefore, whenever we attempt to employ language for any other purpose in physiology than that of giving some definite idea to each phenomenon, we are moving in the dark, and get into labyrinth wilds. But while we content ourselves with naming the diversities of the vital principle, as associated with certain tissues, we are on clear ground. And I trust the exposition which I have here attempted, will be found within rational bounds.

I have endeavoured to show the different modifications of a vital principle with its appropriate molecules, tissues, &c. from the period of the vivific germ, to the completion of aggregate life. We have first seen a modelling power applied to molecules which exists from the period of germination to death, as a *vis plastica*. Next we have seen a diverging and converging power in the same tissues carrying vivific molecules towards the periphery of every section of the body, and bringing those molecules somewhat changed towards the centre which is the heart, except so far as they are thrown off by the plastic powers. This power in concert with that of the vivific molecules, conducts the growth in utero, and the growth in atmospheric air. This propelling power, or power of impulse is the *vis a tergo*. These two powers are mainly dependent upon a molecular medulla. Thirdly, we see a muscular system which requires for its activity a constant adaptation of a vivific principle, and new sets of tissues. The brain, now formed as a grand discerning apparatus of sensorial power, becomes connected, while it is forming, with the muscular system, by means of nervous cords, and by this diversity of medullary influence, and this peculiarity of tissues, the muscles acquire the power of contractility—this is the *vis insita*.

Now ascending in the catenation of life, from the molecular state, next to a sort of centrifugal and centripetal force, as seen

in the circulation; and, coming to the contractility, and decurtation, of the muscles, we have a more clearly marked evidence of an *identity*. The *vis plastica*, and the *vis a tergo*, while yet in their more feeble state, have a helping power in the parent, but the *vis insita* must be peculiar to the individual—perceptive sensibility cannot be transferred. But in the muscles, classed by Bichat among the organic tissues, the *vis insita* moves upon a condition of sensific power, therefore a link lower in our *catenation*, than the perceptive condition, which is the first power in the catenation, that fully establishes the identity of the individual.

Here we arrive at the acme of animal existence in respect to its aggregate state. The phenomenon of developement, of the individual, is completed, and with it all the powers mental, and corporeal, for its mere animal existence, and propagation of its kind as we see in brutes—what man possesses beyond this is in spirit immortal.

*Strength and weakness.* These being relative terms, I shall treat of both under one head.

It is known to every person of common observation, that we are feeble in infancy, weak in youth, strong in early manhood, and become again weak, as we pass on from the meridian of life. But these several states or peculiarities, like every thing relating to human life, are but indistinctly defined. Some individuals acquiring full vigour much earlier than others. Other individuals again, soon reach the meridian of life, and so to speak, an early old age.

These several states, however, succeed each other in every individual, and should therefore be the subject of study to the physician. It is obvious that there must be a proper degree of tone of muscular fibre to constitute strength, and I have already said that there is a certain proportional vigour throughout life, which we would distinguish by the name of a good or bad constitution. Here too much has been attributed to the solid fibre, and to the power of volition over the muscles. Certain it is, that muscular power cannot exist in its full force, without the full operation of the power of volition and perfect form of the solids. But I shall attempt to shew that all the tissues, functions, and animating principles are equally concerned in the affair of strength or weakness.

It will not be doubted that the plastic operations must be perfect to afford health. This will secure a due proportion between the solids and fluids—will provide for the secernment of medullary molecules, and nervous energy in the brain—effect all the

glandular and vascular secretions—repair the tissues in general—give form to the muscles of course—and provide a due proportion of muscle, fat, &c. and no more.

The *vis a tergo* will secure a proper tone in the heart and arteries—upon this does animal strength much depend, and yet the will has no power over this tissue, and hence we infer that Cullen is unguarded in saying that muscular strength is mainly dependent upon the force with which the individual can direct the sensorial energies upon the muscles. If the *vis a tergo* is not in a state of soundness, the muscular powers cannot be exerted, and yet we know that the *vis a tergo* is not connected directly by nerves to the brain.

We are reminded here, of what Darwin says, “of a sense of distention.” Speaking of this sense, he says: “In those hollow muscles (meaning the heart and arteries) which have been accustomed to it, this disagreeable sensation is called faintness, emptiness, and sinking, and when it arrives to a certain degree, is attended with syncope.”

Now, we know that these muscular tubes may not only be interrupted in their function by loss of blood, tapping, &c., but there are many medicinal articles which have a peculiar influence over this tissue and its animating power.—*Digitalis*, *antimony*, *tobacco*, and many other articles might be mentioned as things tending not only to interrupt the *vis a tergo*, but they may even lead to the extinction of life. So that the strongest brain and muscles fall prostrate before many of these agents. If, then, we see the *vis a tergo* thus liable to interruption, and the strength subdued by this interruption, we cannot doubt, that the *vis a tergo* naturally exists in more or less vigour, in different individuals, and tends much to form and regulate the strength of every one.

Other things being in a state of order and integrity, we must admit that bodily strength is mainly dependent upon the state of the *vis insita*. By this term we mean to convey the idea, that there is a quality in the voluntary muscles, which the will can excite into action by throwing into it a portion of nervous energy; and as the individual shall have the power to will, all things conspiring, so will the muscular force be the greater. This we see in some particular individuals to exist during a long period of their existence, in other instances, it may be brought up suddenly, by maniacs, or other persons, under some peculiar excitement.

Some of the foregoing observations will lead to the position,

that sensibility and contractility, must be suited to the other circumstances of the individual, or more or less irritation will arise. Many delicate persons are seen, whose sensibilities, both mental, and corporeal, are such as to keep them on the verge of disease, and liable from the most trifling causes, to be thrown into painful irritations.

All contractions disproportioned to the stimulus, or incitement, which produce them, are to be considered, actions of irritation. And hence we have irritation of all the tissues, and of all the diversities of sensorial energies which act upon them. All the muscles having their molecular attractions, and contractions, of crispation, or decurtation; and all the sensorial energies, having their peculiar impelling, stimuli or incitements, it is obvious, that if these stimuli or incitements, are over or under the proper degree of force, we shall have irritation, characterized by the peculiarities of tissues and of energies. But if the various tissues be placed in a diversity of relations, by which compound irritations may be produced, we shall have much difficulty and obscurity attending such irritations.

*Idiosyncrasies.*—Having dwelt on the subject of animal life more fully than was intended, there is neither room nor perhaps occasion for saying much respecting idiosyncrasies.

In our observations upon this subject, we find persons who are greatly distressed by the smell of some odorous bodies, that are peculiarly pleasant to others. Some persons again who cannot endure the taste of some of the more common and pleasant esculent articles, and others who would really be sickened by having to partake in smells, tastes, &c., of things, generally agreeable.

Some persons are greatly distressed by taking certain articles of food into the stomach, which they like, and which to others are wholesome—these are sometimes things the most innocent.

So in regard to medicines, some persons are very hard, others easy to vomit, purge, &c., which peculiarities are not dependent on any visible cause. Some persons cannot be made to vomit.

Some bear opium, and other narcotics in a state of the system which would greatly distress or endanger the life of others.

Mankind have also their mental idiosyncrasies. Some being morbidly alive to every aberration from health—others can scarcely be made to yield to sickness, till much broken down. Lastly, idiosyncrasies are sometimes hereditary.

These hints are sufficient to remind us of the importance of this subject, and I shall close by saying, that we should never lose sight of idiosyncrasies at the bed-side, and in deliberating upon our operations.

It will be perceived, that we have used some old and familiar terms, as *vis a tergo*, &c., in somewhat of a new sense. We trust however, the innovation is not such as to lead to confusion or ambiguity. Any new sense attached to words, is so fully explained, that we trust they will be found intelligible, and free from error.

Having now explained the ground work upon which we mean to rest our doctrine connected with irritation, we shall defer the application of these doctrines until our next number.

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**ART. II.** *A Case of Tetanus, with references to other cases, and some general observations, tending to maintain the preference due to the Narcotic and Stimulant plan of treatment.*  
By RICHARD N. ALLEN, M. D. *Belair, Harford County, Maryland.*

**CASE.**—Stephen Presbury, a healthy coloured man, about twenty-one years of age, wounded his right foot with an axe, on the 27th of February, 1827. The wound was about three-fourths of an inch in depth, and two and a half inches long. There had been, at first, a copious hemorrhage, which was restrained by filling the cut with agaric, and applying a very tight bandage. This confined in the wound, a firm coagulum of blood, which separated its edges to the extent of nearly an inch.

My attendance commenced on the 1st of March. There was no appearance of inflammation, nor any local pain, but a soreness and rigidity along the whole extent of the spine, extending to the neck and back of the head, occurred in about 48 hours after the accident. The coagulum having been removed from the wound, its edges were approximated by sutures, leaving room, however, for the introduction of stimulating fluids. There being no other fluid of this nature at hand, ether was at first applied; but turpentine was soon obtained, and its application continued throughout the remainder of the disease. It was applied

by means of lint, and the other dressings also kept moistened with it. Two grs. of opium were ordered at bed time, with a nutritious diet.

2d. Symptoms continue—ordered Calomel, grs. x. Jalap, grs. xxv. Two grains of opium to be repeated to-night.

3d. The morbid sensations in the neck and spine, have entirely disappeared, but considerable pain and inflammation have taken place in the wound, which is in a suppurating and granulating condition. The cathartic operated freely twice, and the relief seemed to be simultaneous with its operation. An occasional involuntary starting of the limb, still exists.

The wound was now closed, and dressed with basilicon, the turpentine to be re-applied in case of any return of the rigidity, &c. of the neck or spine. Two grs. of opium to-night.

4th, Eleven, A. M.—An aggravated return of the rigidity and soreness of the neck and spine, took place in the course of last night, and the same sensations have now extended to the jaws. Slight spasms of the lower limbs, also exist.

The stimulant treatment of the wound has been resumed—1 gr. of opium ordered every two hours.

Three, P. M.—All the symptoms terribly aggravated. Spasms very violent and painful, occurring every few seconds, and affecting all the muscles of the upper and lower extremities, neck, spine, &c. The pain extends to the bottom of the sternum—abdomen tense, and its muscles collected into rigid knots. The sound limb experiences considerable pain, the wounded one feeling “as if asleep.” There is some undefinable morbid sensation in the injured limb, extending up it to the abdomen. The speech is hurried, preternaturally loud, and performed by starts. There is vast pain and anguish, constraining the patient to utter loud and vehement cries. The affected muscles generally feel tense, and are collected into knots.

A quantity of opium and its tincture, equal to 18 grs. of solid opium, was given between 12 o'clock and 7 P. M., and a pint of common apple brandy, within the same period. At 5, P. M., the cold bath was also used, by dashing several bucketfuls of cold water over the shoulders, and afterwards covering the patient warmly in bed.

By these measures, the spasms were completely controlled and suspended; and although they recurred at intervals for several days, they never afterwards assumed so formidable an aspect, being always found controllable by opium and brandy. French brandy was used as soon as it could be obtained.

By reference to notes of the subsequent progress of the case,



I, however, find, that between 6, A. M., of the 5th, and 12, M., of the 6th, a quantity of opium and its tincture, equal to 31 grs. of solid opium, was given, with a quart of French brandy. During this interval, the spasms, though obstinate in a considerable degree, were never very violent or distressing.

The quantity of opium in general required to control the tetanic spasms, after their first violence had been subdued, varied from 3 ss. to 3 ij of the tincture, at a dose, which was repeated at intervals of from one to three hours, according to the emergency, and the effect of the preceding doses.

On the 5th, 60 grs. of jalap were given, and this failing to act, 25 grs. of calomel were ordered on the succeeding day, to be followed by castor oil and enemas, till a copious operation should be produced. This object was effected on the 7th. The opium was gradually relinquished, by diminishing the dose, and lengthening the intervals. 3 ss. of the tincture every three hours might have sufficed on the 6th—the same quantity every four hours on the 7th—the same three times a day on the 8th—and after this, a similar dose at bed-time only. It was finally discontinued on the 12th.—The liberal use of brandy was continued through the same period, diminishing the quantity given from time to time, in about the same proportion. The spasms finally ceased on the 8th, the other symptoms having also gradually disappeared. The suppuration, which had before ceased, was re-established in the wound, which was afterwards dressed with basilicon ointment.

About the 9th, the mouth became sore from the calomel.

The heat was slightly increased throughout the disease, but the pulse did not at any time exceed 100, and at the beginning was nearly natural.

On putting the patient to bed after the cold bath, a copious sweat ensued, and was generally kept up during the continuance of the severe symptoms. What agency this measure had in producing this, or any other favourable effect, it is, perhaps, impossible to judge. I am, however, disposed to think favourably of its effects, and, as it cannot interfere with the other remedies, would recommend its use in conjunction with them.

I am persuaded that some indispensable, or at least, important remedies, have lost their reputation by our expecting each to perform *singly* what can be accomplished only by the joint powers of several—to substitute the entire plan of which it should form only a part. In the treatment of such a disease as tetanus—a disease by far too rapid and fatal for the successive trial of all the remedies recommended on the most respectable

authority, or even of any two or three of them—it seems most proper to adopt the *plan* which may appear to be sanctioned by the strongest evidence, without stopping for experiment on the comparative efficacy of its separate parts.

The cold bath was not repeated in this case, the subsequent state of the skin not admitting of its repetition, and the abatement of the symptoms rendering any further trial of it unnecessary.

The jaws, though very strongly affected, were never closed so as to render difficult the introduction of medicines.

Ley was at one time substituted for turpentine, as a local application—but the latter was preferred.

It is a remarkable coincidence, though obviously only accidental, that the father of this man had died with tetanus, some years before. No efficient remedies were tried in his case.

#### *General Observations.*

In offering a few remarks on the disease in question, I shall by no means pursue the method which has become too common among the writers of cases, or desultory essays, by pretending to furnish a history of the various theories in relation to its nature, or the equally various plans of treatment which have been recommended at different times, and by different authors, not attempting to offer any complete abstract of the learning on this subject, which a little increase of labour would, of course, enable me to do, I shall confine myself to such observations as may appear to have some bearing on the point which I shall endeavour to maintain.

A rigorous and excessive scepticism in regard to some of the most unquestionable effects of common remedial agents, with a credulity as inordinate in relation to theories and hypothetical speculations, is perhaps the characteristic of a large share of the men of genius now engaged in the medical profession. In relation to fever, for example, we shall hear men speaking with the utmost confidence, of *congestion—equalizing excitement*, &c. &c., who yet altogether doubt the utility of bark, or lay the use of it under so many restrictions as almost entirely to exclude it from practice. So in regard to tetanus—while one is certain that it is seated in the spinal chord; another, that it has its origin in the nervous system generally; and a third, that it is excited by disorders of the abdominal viscera—the utmost confusion and scepticism prevail on the subject of its treatment. Occasionally, indeed, some writer steps forward with prussic

acid, tobacco, enemata and cataplasms, &c., and tells us, that his remedy is worthy of exclusive reliance, drawing his conclusions, perhaps, from a solitary case, and that, sometimes, a fatal one.

Our attention has been particularly attracted to an essay by Prof. Chapman, of Philadelphia, in the 46th No. of the Philadelphia Medical Recorder. The writer professes to be reviewing a work on Tetanus and Hydrophobia, by Dr. Ried; but he evidently gives a distinct essay. How far the sentiments of this are directed by, or borrowed from the writer whom he professes to review, I am unable to ascertain. A learned and elaborate sketch is presented, of the symptoms and treatment, as described or recommended by various authors in successive ages—but the learned professor himself, bringing us to no conclusion, exhibits a scepticism in regard to treatment, which appears not to be warranted by the records of the profession, and which is equalled only by his “aspiring and adventurous credulity” in some matters of hypothesis and speculation. Dr. Chapman discredits the reports of those who declare that they have given large quantities of brandy, &c., and incredulously asks, how these could have been swallowed? In reply it may be asked, if there be no degree or stage of tetanus without such absolute closure of the jaws as to render deglutition impossible? His general aphorism, that “medical testimony is fallacious”—however applicable to particular cases, or whatever the sage and philosophical scepticism which it may indicate—has no weight whatever against the mass of recorded testimony in favour of the narcotic and stimulant plan in tetanus.

Let us now see what foundation exists for the unlimited scepticism of Dr. Chapman, who declares, that if called to a case of tetanus, he would not know what plan to adopt. It is true that there was an immense mortality in the British Peninsular Army, as Dr. O’Beirne declares,\* that of about 200 cases which he there witnessed, *not one recovered!* The remedies were opium, *with bleeding, purging, and digitalis*. But neither this appalling experience *with these remedies*, nor the scanty and vague experience of our author, can counterbalance the weight of testimony in favour of the opiate practice &c., which will everywhere be found in the periodical journals, the prevailing sentiment of the great body of the profession, and the uniform recommendation of systematic writers. Opium was indeed *one* of the remedies said to have been used in the Peninsular war, but its want of ef-

\* Dublin Hospital Reports, vol. 3—Lond. Medico-Chirurgical Review, 1823—Philadelphia Med. Recorder, vol. 7, p. 106 and p. 221.

ficacy only proves that it was incapable of saving the patients from the disastrous effects of the other measures. Besides, the mortality alluded to might have been partially attributable to some peculiarities of climate or situation; and it would be absurd to draw from it any inferences contrary to the general experience of the profession, in other times and places. Dr. Chapman himself advises the use of opium, but declaring that there is not "any definite course confidently to be preferred," denounces as uncandid all those who hold an opposite opinion. The *plan* which he recommends in conjunction with opium, I am also persuaded, is not such as would afford that remedy a fair chance of succeeding.

I have no doubt that the common treatment of tetanus by opium, stimulants, &c., appears to less advantage on the records of medicine, in consequence of the prevailing disposition to record what is new and extraordinary, rather than what is common and established. If we had a true and full account of all the cases successfully treated, I am convinced, not only that a very large majority would be found to have yielded to the narcotic and stimulant practice, but that this practice, when actively and judiciously pursued, has been attended by very encouraging success. Even under existing circumstances, I believe that by much the largest share of fortunate cases on record were treated by opium and stimulants. A compilation and comparison of the cases recorded, would be a laborious and nugatory task. It is sufficient to refer to the positive and unquestioned testimony of two or three late writers, against which the negative assertions of inexperienced and speculative writers can never be allowed to possess the smallest weight.

In a number of the Medico Chirurgical Journal of London, for 1820, is recorded the experience of Duncan Stewart, M. D., a practitioner of eminence in the West Indies. This writer treated the disease chiefly by large doses of opium, keeping the bowels open by turpentine and castor oil, administered twice a day. This plan was attended by very considerable success. Dr. Morrison, whose work is referred to in the same number of the Medico Chirurgical Journal, and in Johnson on Tropical Climates, relied principally on large quantities of opium, with the plentiful use of bark and wine. Mercury and the warm bath are also recommended, and Dr. Morrison thinks the former should never be omitted, *as its use does not interfere with the other parts of his plan*. This physician also had considerable success—he saw more than a dozen cases saved where opium was the principal remedy, but not a single recovery without it. How does

this agree with the sceptical dogma of Dr. Chapman—that there is not “any definite course confidently to be preferred”? Dr. Morrison practised in South America, and Dr. Stewart in the West Indies—each acquired his experience in a tropical climate, where tetanus is clothed in all its terrors, and assumes its worst and most fatal forms. Dr. Hillary, who practised in Barbadoes, treated the disease by opium, musk, and wine; and he declares this plan “generally answers our expectations.”

Tetanus is not then so uniformly or generally fatal as Dr. Chapman would induce us to suppose—nor is its treatment so doubtful or mysterious as he labors to represent it.

I beg leave in conclusion, to offer my own views, sanctioned by the above case, and by the experience of my medical friends.

I have no doubt whatever that opium should be the principal remedy *in every case*, and that its use should generally, if not universally, be conjoined with that of stimulants, of which wine and spirituous liquors seem to be the best. Mercury, being recommended on very high authority, *and not interfering with the other remedies*, I should also be disposed to use.

In the case above related, I think that mercury, with the much more liberal employment of opium, might possibly have arrested the premonitory symptoms, and thus have prevented the developement of the disease. I have since seen a case of very considerable nervous disorder with twitchings and a wild and agitated countenance, arising from a wound of the foot; in which the system was completely tranquilized, and all the symptoms immediately arrested, by a single dose of calomel and opium.

It seems to be better to give opium in tincture than in substance, as cases are recorded in which all the opium administered has, after death, been found unchanged in the stomach.

Turpentine seems to be the best local application, and should be continued as long as the tetanic symptoms exist.

Where the disease has arisen from a puncture, or where the wound has healed, it seems advisable to resort to incision, as is generally recommended.

If I should meet with a case resisting the use of opium for several hours, I would adopt the practice advised by Dr. Hartshorne of Philadelphia, and make eschars along the spine with vegetable caustic. Antimonial ointment as advised by Dr. Jenner, blistering along the spine, &c., act in a similar way, but their efficacy appears more doubtful. All these modes of external irritation, as well as the irritants applied to the wound, appear to act rather by concentrating the general irritation, and

translating it to the irritated surface, than by any local effect upon the spinal chord. Their efficacy, therefore, gives no support to the spinal theory of tetanus.

The bowels should, if possible, be kept open by calomel, turpentine and castor oil, &c., with stimulating enemata. But the progress of tetanus is often too rapid for their action, and the patient must be saved or lost before the time required for their operation has elapsed. In the case above related, the violence of the symptoms had been wholly and finally subdued, two days before cathartic medicines could be made to operate. The bowels had, however, been evacuated during the existence of the premonitory symptoms.

Of the warm bath I can say nothing, though it has been found beneficial by Dr. Morrison and others.

I am disposed to think that the cold bath, though employed but once, acted beneficially in the case detailed. I should attribute it to some agency in producing the copious perspiration which immediately followed its use; but as opium and brandy were at the same time used in large quantities, it is not possible precisely to determine its effects.

The testimony of antiquity, and the modern experience of Wright, Currie, and others, are decidedly in favor of this remedy; and such authority should not be lightly rejected, on mere negative evidence. Its want of efficacy in the Peninsular war, may very probably be ascribed to the inefficient or injurious measures with which it was associated. The cold bath may be a useful and important remedy in tetanus, and yet be wholly incapable of subduing the disease, either alone, or conjoined with an improper plan of treatment. The cases of Dr. Currie, though not cases of *traumatic* tetanus, seem to be free from all ambiguity, as to the effects of the remedy. The testimony of Dr. Rush, in favour of the cold bath, is also very decided. The former philosophical writer bears his testimony in favour of the plan here recommended, in the following words—"opium, the cold bath, and wine, are the only remedies which seem entitled to any reputation." But after all, the cold bath can only be regarded as a subordinate and, probably, unessential portion of any plan for the cure of tetanus—opium and stimulants being the principal remedies, and, indeed, the only ones which are worthy of any *exclusive* confidence. As the cold bath does not, however, interfere with any other remedies, external or internal, it should be tried whenever other measures do not quickly succeed.

My conversations with medical friends, around me, on the subject of tetanus have been entirely casual, and I have had no

communication relating to this subject, with any but three of them. Among these, I have heard of *six* other cases, making *seven* when added to the one here related. Of these, *three* were saved by the opiate and stimulant practice, and four perished. Of those saved, two were cases of *traumatic* tetanus; the other *idiopathic*, and apparently produced by cold. Of the fatal cases, two only were treated on the narcotic and stimulant plan—of the remaining two, one was treated by depletion, the other by mercury, *alone*.

It thus appears, that of *five* cases which I have known to be treated on the stimulant and narcotic plan, *three* have been cured; and of these, *two* were cases of *traumatic* tetanus. In one of the fatal cases, the substance of the brain had been deeply wounded, and the man, while apparently recovering from this injury, was suddenly seized with tetanus, and died some weeks after the accident.\*

This success may have been in some degree fortuitous, and may not afford a perfectly fair estimate of the average mortality, under the most correct practice; but it is sufficient to shew that the disease is not of a character so desperate as has been represented. The statement of it may also be useful in restoring confidence to a practice long established, but too often laid aside for mere experiment, or for plans founded upon unwarranted hypotheses in relation to its nature and seat.

Whatever may be the ultimate lesions found on dissection—which, indeed, exhibits the *consequences*, rather than the *causes* of disease—I believe nothing more is known of the origin of tetanus, than that it is the product of an *irritation, generally arising from wounds, established in the nervous system, and developed in the muscles by convulsion and spasm*. The lesions found in the spinal chord no more demonstrate its seat and origin to be there, than do the cerebral lesions so often resulting from abdominal irritation in children, shew the brain to have been the *primary* seat of the disorders by which those lesions were produced.

To control the spasms by opium, to excite the vascular sys-

\* The cases stated to me by Dr. Joshua Wilson of this county are peculiarly interesting—they exhibit at once the efficacy of the opiate and stimulant practice, and the unhappy consequences of that versatile scepticism which rejects the long established method of cure.

Three cases of tetanus occurred in the Baltimore Alms House Infirmary, while he was residing as a student at that institution. The two first were treated by the physician of the House; one by depletion, the other by mercury—both died. The third, a case of *traumatic* tetanus, being regarded by the physician as desperate, was resigned to Dr. Wilson, to be treated at his own discretion. This patient was saved by opium and stimulants.

tem by stimulants, to concentrate the irritation and determine it to the surface, appear to be the only *certain* indications.

It seems very doubtful whether either opium or stimulants *separately*, would afford any success to be compared with that which is attainable by their joint action.

Tobacco might, indeed, under certain circumstances—in robust constitutions, and states of high morbid action, be a useful adjuvant to the plan here recommended; but it is my solemn conviction that it should never be relied on as the principal remedy. It is used by enema, by cataplasm applied to the abdomen, or by its application locally to the parts affected with tetanic rigidity or spasm. In the last way, stramonium has also been used, but whether it has any decided effects, I am unable to say.

If ever venesection is useful in tetanus, it must be under very peculiar circumstances, connected with a high grade of action. From the general principles by which we are directed in the use of other means, and from the general experience of the profession, it appears to be highly injurious in the great majority of cases.

The other plans proposed in the journals of the day—from prussic acid and acupuncturation, to the local bleeding and demulcents of Broussais—are, in general, wholly unworthy of the slightest consideration.

By what prophylactic measures the chance of tetanus, after wounds, may be most effectually diminished, is a question to which, I believe, no answer can be found which will be altogether satisfactory. It may perhaps be assumed, that all wounds so situated as to present a danger of its occurrence, should be carefully watched, and any deficiency of inflammation redressed by local stimulants—aided, if necessary, by calomel and opium, brandy, or wine, and a liberal diet. Where the irritation from wounds, in tendinous parts, appears to be excessive, the external application of opium, in solution, to the wound, with the internal use of the same remedy accompanied by the antiphlogistic regimen, is recommended on high authority \*

The free employment of calomel and opium, with purgatives, may afford the best chance of arresting the disease, after the occurrence of decided premonitory symptoms.

Emetics have been applied to the same purpose, but further evidence, in regard to their effects, appears to be required. The earliest mention of them, as remedies in tetanus, which has fallen under my notice, occurs in an inaugural thesis, published in Philadelphia, about the year 1798, by Dr. Cocke of Virginia.

\* London Med. Repos., June, 1825—Med. Recoder, vol. 8, p. 833.



The author states, that Dr. Rush had cured two incipient cases entirely by emetics. The remedy is also mentioned, by the latter writer, in his *Observations on Tetanus*. Dr. Reardon has informed me that his father-in-law, the late Dr. Birckhead of this county, also used them in similar cases, and with the same fortunate results. They appear therefore to be worthy of a trial in every case introduced by premonitory symptoms—especially as they could not interfere with any other plan which might afterwards be adopted.

In reference to the case detailed, the temporary cessation of the premonitory symptoms, and the appearance of suppuration in the wound before the occurrence of serious tetanic spasm, may be circumstances worthy of remark.

I have appended these observations to the case, not from any desire for ostentation or display, but as the results of inquiries and deliberations, long since instituted, with a direct view to their practical application.

The foregoing observations upon tetanus, are peculiarly acceptable to us at this time, since they accord, in the main, with our own experience on the subject. We have intended for some time past to offer some observations and reflections on this disease, and are pleased to have them corroborated by our able correspondent.

It becomes us to acknowledge, that we have for several years been inclined to the depletory practice, and that we have by our own clinical observations, been led to change our mode of practice, having clearly discovered, that depletion was uniformly prejudicial; so much so, that we shall contend in our reflections, now in hand, that bloodletting, and other depletory measures, are only useful or admissible in cases complicated with other morbid derangements.

Tetanus for instance, may be accidentally associated with hepatic derangement; may be produced by gastric or intestinal irritation; or it may be associated with inflammatory fever, &c. In all such cases, the remedies for the removal of the concomitant disease, or the internal cause, must be associated with the remediate agents for tetanus.

It is with becoming deference that we differ in some degree from doctor Allen as regards the employment of tobacco, and the cold bath, in the disease in question.

We shall not stop here to state our objections in detail against the use of these articles. We are aware that it has been said, that both of them have effected cures, but they have seldom been relied on alone; and, it cannot be denied, that tobacco has been attended with fatal consequences, even from its external application, as in *tinea capitis*. We are aware that opium and other narcotics may be used in extreme doses, in morbid states of the system, not only with impunity, but often with peculiar advantage—nevertheless there is such clear evidence of opium being the suitable narcotic in tetanus, and it is so evident that the influence of these two remedies upon the heart and blood-vessels is dissimilar, that whatever theory we may apply, it will follow, that if opium is the appropriate remedy, tobacco cannot be. The fact that a solitary case may have yielded, here and there,

to tobacco, is no proof of its being preferable to remedies easily had, and less violent in their operation.

We shall endeavour to illustrate this part of our subject hereafter; meantime, we would enter our protest against the use of tobacco—the testimony in its favour is not such as to give it a preference in any case over opium; why then employ so uncertain, and we think dangerous a remedy. It must be admitted that so capricious is the nature of disease in some cases, that what will cure one may destroy many others; and this is most apt to be the case with those deadly narcotics, which exert their principal influence upon the heart.

The cold bath we must admit has sometimes been useful, but it has only been used as an auxiliary to more powerful remedies. Its employment requires a peculiarly nice adaptation, and we shall endeavour to show, that its force or influence is too directly operative on the motive power of the heart to be well suited to tetanus; because this is a disease located in another system of tissues. We have seen the cold bath employed in one case of severe locked-jaw and episthotonos, where, it seemed to be indicated on the second day of the disease.

It was employed by dashing a bucket of cold water on the body.—The body was speedily dried, and the patient laid between blankets. The heart and arteries did not react, and the patient died in seven or eight minutes.

No writer has fallen in our way, who so nearly approaches a correct view of the treatment of tetanus as doctor Rush. Many of his facts are highly interesting; some of his reasoning well directed. Still we see much to which we would decidedly object, and to nothing more pointedly than when he says—that our medicines should “*be given in succession, and in rotation.*” We fully agree however, that they should be given “*in large doses,*” and sometimes “*by way of glisters.*” On the contrary, we believe, as has been intimated by doctor Allen, they should be used conjointly, as there is too little time to try remedies “*singly.*” It must be acknowledged that this is one of the most formidable diseases to which we are subject, and we hope to perform an acceptable service by treating more fully upon it. Ed.]

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**ART. III. *Case of Pneumonia, terminating by Metastasis to the brain.*** By RICHARD N. ALLEN, M. D. Harford county, Maryland.

**SABINA**, a negro woman belonging to the late Edward Prigg, Senr. of this county, after a previous catarrhal affection of several days duration, was seized on the 13th of January, 1827, with a strong chill, which ushered in a very acute attack of pneumonia. The disease was of a synochus or middling grade, and attended by the bilious diathesis. The cough was almost incessant—pain in the thorax very distressing—respiration quick, painful, and laborious. Continual nausea was also complained of, and the pain distressingly aggravated by every

effort to cough. The woman was in the eighth month of pregnancy.

I visited her on the 14th. A pint of blood had been taken from the arm on the day of attack, and the strength did not now seem sufficient to bear a repetition of it, and to support the free evacuations from the alimentary canal demanded by the bilious symptoms. An emeto-cathartic was ordered, to be followed by a refrigerant diaphoretic at stated intervals, and by an opiate at bed time. A large blister was also applied over the seat of pain. Plentiful dilution with tepid drinks, to accompany the diaphoretic medicine, linseed tea, &c.

15th. Pain abated, but not removed—respiration still very laborious—cough troublesome, and very painful. The medicine of yesterday produced free evacuations of a highly bilious nature, both upwards and downwards.

Same remedies in general—but an opiate was ordered every six hours, and another large blister applied to the thorax.

16th. General condition the same, but debility increased—bowels in a free state—cough continual and distressing.

A draught of acetate of ammonia, with tincture of opium was ordered at regular intervals, in a glass of infusion of serpentaria—plentiful dilution—steam applied under the bed clothes by means of boiled corn.

The skin had all along been hot, and only occasionally and partially moist—the pulse quick and vibratory, but compressible.

17th. The means directed yesterday, produced a copious sweat, which lasted about twelve hours. The symptoms were much alleviated by the sweating, as long as it continued, but have since returned in a slightly abated degree—debility increased.

Calomel, *grs. v.* ordered as a laxative—ammonia and serpentaria substituted for the other diaphoretics—steam continued—another blister to the thorax.

18th. There has been a copious perspiration ever since my visit yesterday—pain abated—respiration slower, and no longer laborious—cough diminished—tongue still coated with a yellow fur—pulse at 120—calomel has not acted.

Same diaphoretics, &c.—a laxative of calcined magnesia, with rhubarb.

19th. Condition similar—tongue cleaner—no alvine discharge—force of circulation increased.

Acetate of ammonia substituted for the *sp. corn. cerv.*—rhubarb and enemas ordered.

20th. Tongue still cleaner—pulse reduced *since yesterday* from 120 to 100—skin soft, and but moderately warm—stomach rather irritable—pulmonary symptoms almost gone—cough rare, and attended by free expectoration. Violent delirium has supervened—wildness of countenance—a muddy appearance of the eyes—strong and irregular muscular action—loud and incoherent speech, &c.

From this time, the tongue having become clean, and the former disease having nearly disappeared, there was a marked increase in the force of the circulation.

Cathartics, occasional venesection, mercury, and blisters to the neck, constituted the subsequent treatment.

The gums became sore about the 24th, and the maniacal symptoms disappeared about the 29th, leaving some headach, and increased excitement. These symptoms were combated by laxatives and low diet only.

February 3d. No pain nor mental disorder—on the even- of this day, an abscess of one of the frontal sinuses, which had formed during the existence of the cerebral symptoms, discharged its contents.

It may be proper to say that, this woman had before repeatedly experienced the formation of abscesses in the frontal sinuses, and that this had occasionally been attended by maniacal symptoms. But whether the disease of the head was merely coincident with the pulmonary affection, or was caused by metastasis; it is certain that it gave immediate and permanent relief to all the thoracic symptoms. The reduction of the pulse in a single day from 120 to 100, and the sudden disappearance of all pain and disorder in the thorax, within the same period, were phenomena which could be explained in no other way.

A form of pneumonia was at the same time prevailing in the neighbourhood, which frequently assumed the typhoid and typhus grades, and which uniformly yielded to emetics, mercurial laxatives, stimulating diaphoretics, and free blistering.

Two cases of pneumonia relieved by insanity, will be found related in Darwin's *Zoonomia*, vol. 1. p. 497.

**ART. IV. *A Table for the Regulation of Doses, with observations.*** By RICHARD N. ALLEN, M. D., Belair, Harford County, Maryland.

**THE** common table for the regulation of doses, purporting to exhibit the proportions of the full dose required by persons of various ages, from infancy to manhood, is extremely defective and erroneous—yet it is annexed to most of the systematic works on practice, without any observations tending to correct the most material of its errors. The great deficiency and error to which I principally allude is this—that the variations of proportion required in the administration of different medicines, are not exhibited nor noticed; nor indeed is it intimated that any such variety exists. Yet every practitioner knows that the same proportion of the full dose, which in the exhibition of opium, to an infant, would prove certainly and speedily fatal, might be adopted in the use of cathartic medicines with the most perfect safety, and frequently with the highest advantage. The same observation may be made, in regard to a great number of other remedies.

In the following table, I have endeavoured to exhibit the various proportions of doses required from infancy to adult age, varying these proportions according to the medicines named in the upper part of the respective columns. The dose for an ordinary man constitutes unity, to which all the fractions refer.

Assuming the utility of the principle on which the table is founded, as a point which must be universally conceded, I leave the details to the consideration of practitioners. I believe however, that, it will furnish a safe and useful guide, in a department of practice where, so far as I know, there was before none, except a varying and uncertain tradition. The proportions designated may admit of considerable variation, but will always afford a safe criterion for prescription. Details might have been easily multiplied, but this was thought unnecessary. The common table has been annexed, that its defects may appear, and that the design of the other, may be more clearly exhibited.

	Opium, Narcotics generally, and medicines com- monly called Poisons.	Saline medicines generally, not cath- artic.	Calomel.	Saline and other ca- thartics.	Emetics. $\frac{1}{8}$ to $\frac{1}{4}$ Nauseating dose. $\frac{1}{4}$	Other medi- cines general- ly. $\frac{1}{8}$
One Year.	$\frac{1}{12}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$ to $\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$
Two Years.	$\frac{1}{10}$ to $\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{1}{8}$ to $\frac{1}{2}$	$\frac{1}{2}$ to $\frac{1}{2}$ naus. dos. $\frac{1}{2}$	$\frac{1}{8}$
Three Years.	$\frac{1}{8}$ to $\frac{1}{4}$	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{1}{2}$ naus. dos. $\frac{1}{2}$ to $\frac{1}{2}$	$\frac{1}{8}$ to $\frac{1}{4}$
Four Years.	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $\frac{1}{2}$	$\frac{1}{2}$ to $\frac{1}{2}$ naus. dos. $\frac{1}{2}$	$\frac{1}{2}$
Four to Seven.	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$ naus. dos. $\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $\frac{1}{2}$
Seven to fourteen.	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{3}{4}$ to 1	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $\frac{3}{4}$ naus. dos. $\frac{3}{4}$ to 1	$\frac{1}{2}$ to $\frac{3}{4}$
Fourteen to twenty-one.	$\frac{3}{4}$ to 1	$\frac{3}{4}$ to 1	$\frac{3}{4}$ to 1	$\frac{3}{4}$ to 1	$\frac{3}{4}$ to 1 naus. dos. 1	$\frac{3}{4}$ to 1

## COMMON TABLE.

1 Year,	- - - - -	$\frac{1}{12}$	4 to 7,	- - - - -	$\frac{1}{8}$
2 Years,	- - - - -	$\frac{1}{10}$	7 to 14,	- - - - -	$\frac{1}{8}$
3 Years,	- - - - -	$\frac{1}{8}$	14 to 21,	- - - - -	$\frac{1}{8}$
4 Years,	- - - - -	$\frac{1}{4}$	Middle age,	- - - - -	1

ART. V. *Case of Rupture of the Uterus.* By M. L. KNAPP,  
M. D. of Baltimore.

ON the morning of the 12th of January last, I was called on by Mr. Knight, of the Baltimore General Dispensary, to deliver a poor woman living in Tyson's Alley, the wife of one of the labourers on the Baltimore and Susquehanna Rail Road. She had been in labour, he said, about twelve hours. The Dispensary Physician for the district in which she lived, could not be obtained, and he had been with her through the night. The waters were evacuated as early as eight o'clock in the evening, two hours before he first saw her, at which time she was brooding over the fire, and complained of being exceedingly chilly; pains of the teasing kind; the os tincæ but little dilated. She was ordered to bed, and heated bricks, blankets and pillows applied until she became warm. At twelve o'clock, he saw her again; pains still of the teasing kind, and continued so until towards morning, when they became full and strong, but nevertheless did not advance delivery. He thought the difficulty arose from its being a preternatural presentation; a fold of the umbilical cord had descended into the vagina. She was an Irish woman of good constitution, say thirty-five years of age, and had borne six children previously, one of which had been taken from her by a surgeon in the Royal Navy. It may be worthy of remark also, that she had suffered a fall in descending the staircase, some time during the latter months of her pregnancy, of which she had complained a good deal.

On my arrival, I found her *in articulo mortis*! A change had occurred in the absence of Mr. Knight, and for about an hour, she had declared herself to be dying. She had suffered the severest spasms; her extremities were now cold, face exsanguious; there was no pulse at the wrist, nor even in the carotids, and respiration soon ceased.

After death, I immediately obtained leave to take the child by the Cesarean section. An incision was made in the course of the linea alba, from above the umbilicus, to near the pubis. On entering the cavity of the abdomen, a deluge of blood told the nature of the accident. I passed my hand into the abdomen, and carried it around the womb, on all sides, to ascertain the point of rupture, or if any part of the child had escaped from its cavity; but no want of integrity being found in its parietes, I proceeded to lay open the body of the uterus, by a longi-

tudinal incision in front, corresponding to the former. Another tremendous flow of blood ensued, when the knife penetrated into its cavity.

I must here take notice of a physiological fact that presented itself in this part of the operation, viz. *the very great thickness of the gravid uterus*. If the idea had often been impressed upon my mind from reading, it had never before fallen to my lot to demonstrate it with the knife. I hesitated, therefore, before I had completed the incision through its parietes, and queried whether I had not been so unlucky as to hit upon the insertion of the placenta. Had it been upon the living subject, it would have caused me serious embarrassment and delay. As it was, the incision became filled with blood from the oozing orifices of the vessels, and having no sponge at hand, it was quite perplexing. After cutting onward, however, *to the depth of more than an inch*, I penetrated the cavity of the uterus near its fundus, and just at the anterior edge of the placenta.

It was found to be a presentation of the face, the forehead answering to the left side of the pelvis, and the chin to the right. The head had descended in this manner, until the anterior fontanel was below the brim of the pelvis, the shoulders on a level with it, the vertex turned back between the shoulders, and the parietal protuberances wedged between the symphysis pubis and the promontory of the sacrum. Considerable force was required to disengage the head, which seemed disproportionably large.

The umbilical cord passed from the navel over the left shoulder, round under the right arm to the left shoulder again; twice around the neck, and thence along the back to the placenta in the fundus of the uterus.

The face was greatly tumified, of a livid hue, and much distorted to the left, by its descent towards the hollow of the sacrum, in the direction of the axis of the superior strait, the os frontis overlapping the parietal bone of the left side, at the coronal suture. The child was dead.

I employed the means usually resorted to, in cases of asphyxia, such as, cutting the cord and suffering it to bleed, setting up an artificial respiration, by applying my mouth to that of the child, holding the nose, and blowing pretty forcibly, so as to inflate the lungs, and then alternately compressing the thorax; chafing the body, &c. These efforts were persevered in, for a considerable time, from having succeeded in a former instance of the kind, of very discouraging aspect; and in as much as one of the attendants said she perceived the motions



of the child, but a short time previous to my arrival. Whether this was the case or not, it was evident that the child was now dead, and therefore irrecoverable.

A rupture was found in the back part of the neck of the womb; where it had suffered compression between the head of the child and the promontory of the sacrum, large enough to admit of the hand being easily passed through it. Its margins did not present the appearance of a laceration, so much as a destruction of the continuity of parts by compression. The walls of the uterus seemed literally *mashed through*, until nothing remained but the peritoneal coat, which no doubt, had given way suddenly, during a pain. The rupture might be said to be longitudinal; being somewhat longer from above downwards, inclining to the left. The contusion was considerably more extensive than the rupture. No hemorrhage had occurred per vaginam—the pelvis was well formed.

*Remarks.*—Rupture of the uterus is not necessarily fatal, either to the mother or the child; though it generally proves fatal to both. Cases are on record, where sometimes one, and sometimes the other, has been saved; and Mr. Haden relates an instance of the preservation of both mother and child.\*

With these facts before us, and the accident occurring every now and then, it seems a matter of professional duty, to notice every case in the detail of its circumstances, with the hope of contributing something to the further elucidation of its pathology. At present, its premonitory signs are unknown; but, who will undertake to say, that a record of all the symptoms and phenomena of a long series of cases, may not detect some one of pathognomonic character? Careful observation, should at least, remove the discrepancy of opinions that exists as to some of its causes, and establish its therapia upon a more unequivocal foundation. The experience of any one practitioner is too limited to accomplish much in relation to this interesting subject; it therefore commends itself to the united attention of the profession at large. Under this view, I hope the reader will accompany me, while I recur to a few particulars in the case before us of pathological import.

*Cause of the Rupture.* Doctor Denmant† says, “the uterus may, independently of disease, be mechanically worn through in long and severe labours, by pressure and attrition between the head of the child, and the projecting bones of a distorted pelvis; especially, if they be drawn into points or a sharp edge.” “To

\*Vide Dewees's Mid. p. 533.

† Introduction, p. 105.

this doctrine," says doctor Dewees, "I cannot subscribe; first, because, before the membranes are ruptured, the head cannot rest with sufficient firmness against any given point, to produce the necessary "attrition;" second, that after the evacuation of the waters, the body of the child is so firmly embraced by the contracting uterus, that "attrition" cannot take place; third, there could not be sufficient friction generated between the smooth surfaces, of the child's head and the uterus, to produce it; fourth, in such cases the child's head should also exhibit marks of this "attrition;" yet of this no mention is ever made."

We here see doctor Dewees, in arguing against the reasoning of doctor Denman, forgetting that there is matter of fact in the way. Shall doctor Dewees, or any other writer, however respectable, deny a matter of fact, advanced by doctor Denman, and ask the profession to give credit to his assertions? In our opinion, no man is better entitled to our respect, or to credence, than doctor Denman. Now he assures us that such cases may occur, this is simple matter of fact; if he ascribes the occurrence to a wrong cause; or reasons incorrectly upon it, that is quite another matter—that such cases may occur, the case of doctor Knapp fully establishes.

The waters having passed away at the onset of labour in the case before us, it is only the latter part of doctor Dewees' remarks that can apply to it,—he says "after the evacuation of the waters, the body of the child is so firmly embraced by the contracting uterus, that attrition cannot take place; Third, there could not be sufficient friction generated between the smooth surfaces of the child's head and the uterus to produce it; Fourth, in such cases the child's head should also exhibit marks of this attrition."

We believe then, that no reasonable man can deny the fact, of a sort of contused laceration sometimes occurring, as seen by doctor Denman and doctor Knapp, whatever others may, or may not, have seen—fortunately these cases are extremely rare. That any thing like attrition in the common acceptance of the word can take place, we as decidedly disbelieve, as does doctor Dewees, and for the same reasons—but the matter of fact is before us, let us attempt a solution of the difficulty.

We believe the uterus is ruptured in all cases by its own action, but in the cases under consideration in a peculiar manner. The uterus being a hollow globular viscus presents, of course, in all its circumference, segments of an arch. Now imagine this arched (or cylindrical body if we speak of its cervix) violently pressed upon from within outwards, either by the enlargement of some body within, or, that, being possessed itself of elastic and contractile powers, by which it is made to contract violently upon some firmly resisting body within.—In either case, the outer surface will be the weakest part of the contracting hollow viscus. Imagine then, we have the uterus firmly wedged down in the pelvis, that a prominent part of the fetal head, as the highest part of the perietal bones, presses particularly on the highest point of the *promontory*, and consider the contractile force of the uterus. Will not this forcible pressure of the head tend in some degree to indent the part of the uterus on which it presses?—May not these combined forces and circumstances, slightly rend the outer and weaker part of the uterus: a slight breach of continuity being thus affected, will there not be an increased tendency to

further and deeper laceration, since in this globular or cylindrical viscus, the ruptured fibres will be drawn on all sides, so as to widen the breach at each contraction. While this is going on with more or less rapidity, as the uterus shall act with more or less power, the same action will tend to press the prominent point of the head, and of the pelvis together, and thus approximate them as the intervening body (the impaired uterus) opposes less resistance.

In short, then, these cases of rupture with contusion are occasioned by repeated rendings, more or less in depth—repeated at each pain till the rend pass through, and as the parts yield, the vessels being torn the pressing bodies on either side (inner and outer) of the uterus, as they suffer the prominent points to approximate, so will the divided parts be attenuated, and contused. These cases we think, will be found to occur in the thickened state of the uterus, generally.

The fact of a preternatural thickening of the uterus, noticed by doctor Knapp, is corroborative of this opinion, (viz.) that, rupture with contusion, is not so likely to happen in the uterus that is thin in its parietes.

The whole matter resolves itself into this, that in most cases, the uterus is ruptured by one tremendous rending through its whole substance; whereas, in cases in which the accident has been ascribed to attrition, it is ruptured gradually, that is, by repeated tearing, commencing on the outer and weaker side of the uterus. The outer surface having given way, the tearing extends deeper into the uterine wall gradatim, till the whole is torn through. And hence the greater appearance of contusion. We are therefore pleased with the idea of our friend, doctor Knapp, that the accident is the effect of "pressure," acting under peculiar circumstances.

There can be no doubt of the fact, that, in this case, the integrity of the uterus was destroyed by "pressure" between the head of the child and promontory of the sacrum. It is to be remembered, too, that the woman was in labour only about twelve hours, and, that several living children, added to my own personal observation, bear testimony to the good conformation of her pelvis. Neither am I inclined to attach much importance to the fall which the woman received two or three months before, although it is possible that this was a *predisposing* cause of the accident.

*The Umbilical cord.*—The complicated entanglement of the umbilical cord, about the body and neck of the child, is worthy of a passing remark. It was redundant in length when unraveled, and, it will be recollected, that, notwithstanding its entanglement, a fold of it prolapsed into the vagina during labour. The life of the child, therefore, may have been destroyed some hours previous to that of the mother, from compression of the cord. Whether, by being rendered mechanically short, it exerted an influence, before the volume of the uterus was lessened by the evacuation of the waters, in checking the natural descent of the vertex, and bringing the head to the preternatural posi-

tion of a face presentation, is a question that I will not undertake to answer. I cannot say, from observation, what effects, either mechanical or pathological, these involutions of the cord are capable of producing, farther than that they sometimes jeopardize the life of the child. I recollect, however, a case in point, that occurred some years since, in the family of my honored preceptor and relative, doctor Colbey Knapp, of Chenango County, New York, an accoucheur\* of some celebrity. The umbilical cord, in this case, was wound twice around the shoulder, at the joint, and *there was a remarkable nœvus maternus of the whole arm.* The arm was congested to that degree that the capillary vessels seemed ready to burst, and the limb was nearly twice as large as the other arm.

*Hemorrhage.* It is a little remarkable that no hemorrhage occurred per vaginam. The situation of the rupture being mostly below the brim of the pelvis, would naturally lead to the supposition, that a portion of the blood, at least, should have found egress by the os tincæ. The absence of flooding is, however, to be accounted for from the contused nature of the wound; the compression of the ruptured vessels, and the head operating as a cork in the superior strait, and preventing the blood, which was extravasated above, from passing. Could the nature of the case, therefore, have been clearly understood at the moment the uterus gave way, and help been at hand, the life of the woman, might, perhaps, still have been saved, by delivering with the forceps, or an immediate resort to the Cesarean section.

*Cesarean operation.*—According to the best authorities this case would not have justified a bold resort to the Cesarean operation, inasmuch as delivery might have been accomplished with the forceps per vias naturales, there being no deformity of the pelvis, and the probability in favour of the child being dead.

Now at such an important juncture as this, whatever is to be done, must be done quickly. If the responsibility of acting promptly, and, under particular circumstances, contrary to the general rules of practice, be great, the consequences of delay are tremendous. We will say, for example, a competent practitioner was in attendance upon the case at the moment of the accident; and, that it declared itself by symptoms that could not be mistaken; forceps were not at hand, and thirty minutes the min-

\* Doctor Knapp informed me by letter, some time ago, that he had extirpated a prolapsed uterus by ligature, and that the woman had recovered. I have not as yet seen this case in any of the Journals, and I hope if this shall meet the eye of the doctor, he will be reminded of his duty to report it.

imum time in which they could be obtained, and the woman could survive under the extravasation but one hour. Would not the practitioner have been justified, under these circumstances, in the employment of the pocket case, and immediately taking the child by the Cesarean section?

The acknowledged source of failure in this operation is *delay*; whereby the powers of the woman become exhausted from fatigue and hemorrhage, and the abdomen filled with extravasated blood. Balancing, therefore, the chance of success by delivery per vias naturales, after some delay, against gastronomy or the Cesarean operation immediately and skilfully performed, the preponderance would seem to me to be in favour of the latter, as affording the better chance for saving the life of the mother. If the records of medicine are to be believed, this operation has been five, six, and even seven times, successfully performed upon the same woman; which proves that the operation, so far from being necessarily fatal in itself, is a justifiable resource of our art, to be regarded in the same light as some of the other capital operations in surgery, and resorted to whenever it shall appear to hold out the best prospect of averting impending ruin.\*

Again, while it is acknowledged that delay is, in almost all instances, the cause of failure, it is forbidden that the operation should be performed without a consultation.† This, however, in a case where the operation was clearly demanded, and counsel not immediately to be had, would be contrary to professional duty and a sense of moral obligation. Upon the whole, in cases of rupture of the uterus, as in all others that involve the issues of life and death, the humane practitioner will not suffer his patient to die without attempting to afford relief, and in this attempt he will be guarded by the circumstances of the individual case before him, and with a promptitude becoming his profession, act according to the necessities of the case.

We are reminded here of a case reported by Morgagni, which we shall offer without comment, and leave the reader to draw his own inferences. That this author would have made a false statement, of a fact occurring under his own eye, we cannot possibly admit.

Cooke's edition, vol. 1, p. 484; Morgagni says he dissected the body of a

\* "In France and Germany, this operation has been repeatedly performed with the most entire success; and we have recently had it in our power to congratulate the profession upon the successful operation of Dr. Locher, of Zurich, Switzerland, by which he preserved the lives of both mother and child." (See *Medico. Chirug. Trans.* vol. ix.) In France and other parts of the continent, agreeably to Baudeloque, one hundred and thirty-nine women recovered, out of two hundred and thirty cases. (See also *Edin. Med. and Surg. Jour.* No. iv. New Series.) Dewees's *Mid.* p. 573.

† Denman, p. 425.

young woman who died of disease of the chest, being pregnant three months; and that "the body being opened half an hour after the fatal issue, the fetus was found to be alive, and it did not expire for half an hour after the mother's decease."

*Summary observations.*—This case presents the following remarkable features, to wit:

1. The early evacuation of the waters, before the os tincæ was much dilated; cold chills, amounting almost to rigours, and teasing pains.

*Indications.*—Artificial warmth, rest, warm anodyne draughts, and the equilibrium of the circulation restored, venesection *pro re nata*.

[The latter remedy would require great circumspection, unless the pulse should very clearly indicate its employment. *Ed.*]

2. Presentation of the face, complicated with prolapsus and involutions of the umbilical cord, and evacuation of the waters about twelve hours

*Indications.*—Manual operation; and as the forehead was towards the left side of the pelvis, the right hand to be used, bringing down the occiput, and delivering as quickly as possible.

3. Rupture of the uterus, from pressure between the parietal protuberance of the child's head and the promontory of the sacrum, without previous disease of the organ, deformity of the pelvis, or a tedious labour; no escapement of any part of the child from its cavity; and profuse hemorrhage that terminated life in an hour, wholly internal.

*Indications.*—Delivery with the forceps; these not at hand—the Cesarean operation without a moment's delay.

ART. VI. *Case of Imperforate Hymen.* By doctor J. W. HORTON, of Harford county, Maryland.

**E.** P. was married at the age of 18 and had never menstruated. One physician after another was consulted, and the most powerful emmenagogues employed in her case. I was the fourth who prescribed for her without the desired effect, yet every month she was observed to have all the symptoms attendant on difficult menstruation; such as pain in the loins, &c.

She had been married nearly two years when I was called on to attend her, and I found her in the following situation.

A hard tumour occupied the umbilical region, larger than a

man's head. The abdomen, was considerably distended, and a fluctuation of fluid was perceptible on percussion. The left ovary was supposed to be diseased, from observing a tumor on that side, nearly the size of a man's fist. She had excruciating pains, and rest could only be procured by opiates. To all the interrogatories proposed she pertinaciously referred her distress to these tumors, however, on a more rigid examination another tumor was found below the pelvis and projecting at the os externum.

What could be the nature of the case? Let him who is disposed to find fault and censure others *now* decide. It has been above observed that this woman had been two years married, and it might be added that she and her husband had lived together all that time in perfect amity, yet strange to tell, *this* tumour at the os externum was an *imperforated hymen* forced down by the catamenial discharge from the uterus. The uterus was forced up to the umbilicus by a strong and dense membrane stretching entirely across the vagina.

The course to be pursued was no longer doubtful. The membrane was divided with the scalpel, and eight pounds of dark coloured grumous fluid were discharged in a few minutes; and in the course of twelve hours about four pounds more. Immediate relief was obtained by this simple operation, and the woman has every reason to hope that she will soon be a mother.

Cases of imperforate hymen are not uncommon in girls; but the novelty of this case consists in the circumstance of its being kept so long secret by the woman and her husband.

We should be sorry to be understood as intending to throw any blame upon the gentlemen who may have attended this patient, so long, without knowing the nature of her disease. But it seems to present an occasion for reminding the younger part of the profession of the great liability there is of remaining uninformed of the precise nature of diseases in females, where any part of the sexual organs are concerned, or, indeed, any case where, in our investigation it will be necessary to examine parts nearly adjacent. It is, therefore the duty of every physician wherever he finds such obscurity, in female diseases, to put to the patient or female friends the most pointed questions, not knowing any thing to be indelicate that is really necessary. We have often been provoked at the remissness of female patients in omitting to give important information which they ought to have disclosed, and which they sometimes denied when interrogated. We well recollect one case, particularly remarkable, where a young lady labouring under strangulated hernia, not only concealed her true situation, but most peremptorily denied having such disease during four days; when, stercoraceous vomitings occurring, we were enabled to tell her of her folly, and to apprise her of her extreme danger—she now acknowledged the fact, that she had been long subject to femoral hernia, and that the strangulation had existed several days. We immediately operated, and thus

saved her from a most perilous situation, owing to considerable inflammation having taken place in the peritoneum, &c.

We are reminded here of some remarks made by Mr. Hey of Leeds, in his chapter on strangulated hernia. Speaking of the liability of patients to mistake this disease, for some other affection, he says—"this concealment most frequently happens in the female sex, and is sometimes carried to an extreme; so that I have more than once known the patient deny the existence of the disease."

We recollect seeing a case, we think, in the work of Mr. Hey, in which six physicians were in attendance, in a case of strangulation, treating it as a case of colic, and the patient died. This case has for many years been of much importance to us in our practice among females.

ART. VII. *Observations and reflections upon Tetanus.* By  
HORATIO G. JAMESON, M. D.

ONE of the first thoughts which presents itself in turning our attention to the subject of tetanus, is the fact, that whatever discrepancy may have prevailed in relation to its treatment, few writers have been disposed to speculate on the pathology of the disease; and, hence doctor Good, who seems, considering the importance of the subject, to avoid much speculation, tells us that "the pathology is highly difficult, if not mysterious, and has hence been purposely avoided by most preceding writers." Doctor Cullen expressly avows, that, he "cannot in any measure attempt it."

Doctor Good does however attempt to explain the pathology of this disease. We think he has failed to sustain the doctrine which he has advanced, but we nevertheless believe that he has thrown some glimmerings of light on the subject, which, it is hoped, will in some degree illumine our path; we shall therefore proceed to notice some of his remarks, and while we expect to dismiss some as erroneous, we shall endeavour so to modify others, as to aid our investigation into this difficult, but highly interesting subject.

We are ready to admit that very much of our professional knowledge is, in great degree, empirical; but, nevertheless, it would be alike vain, and injudicious, to attempt to divest ourselves of theory in medicine; from the merest tyro up to the aged, and almost mechanical practitioner, all cherish more or less theory. Some peccant humour is to be removed, some excitement to be raised or lowered, &c.; indeed, some degree of



reasoning on our prescriptions, seems to be inseparable from the practice of medicine—why then shall we refrain from the closest possible investigation of the pathology of diseases; however often we may fail in our efforts at reaching the secrets of nature, let us still persist, we may finally succeed. The only legitimate question here is, is it a rational pursuit to aim after true philosophy in medicine. If it is, then every well digested speculation on medical subjects is both laudable and rational, and not only worthy of the time and attention of all, but entitled to commendation.

Let us now turn our attention to the theory advanced by doctor Good. This author says, treating on tetanus vol. 3, "there is one principle, however to which I have frequently had occasion to turn the reader's attention, which will help us in a considerable degree, to develop something of its obscurity, and to account more especially for so remote a separation between the seat of primary irritation, and that of a spasmodic excitement, which constitutes, perhaps, its most embarrassing feature. The principle I allude to is the sympathy which prevails throughout the whole of any chain of organs, whether continuous or distinct, engaged in a common function, and which is particularly manifest at its extremities, so that let a morbid action commence in whatever part of the chain it may, the extremities in many instances, become the chief seat of distress."

Our author refers to some of his remarks when treating on parapisis illusoria—he notices the fact that persons who have suffered amputation, "for a long time, after the loss of the separated limb, have still a sense of its forming a part of the body, and suffer in idea the same kind of pain or other inconvenience they endured before its removal."

"It proceeds from that close sympathy which peculiarly prevails between the extremities of the living fibres of all organs whatever, and which, as we have already had occasion to show, extends also into organs at a considerable distance from each other. Of the first we have an example in the constricted pain produced in the glans penis, when the neck of the bladder is irritated by the lodgment of a calculus upon it." Other instances of the same kind of sympathy are pointed out. And we are told that "of the second kind of sympathy, or that which shows itself between remote organs, engaged in a common chain of action, we have a striking instance in the swelling of the mammae from the irritation of the uterus in pregnancy."

Doctor Good thus goes on to point out many of the more obvious laws which govern the several kinds of sympathy. But

all this is nothing more than a repetition of the views and observations of Mr. Hunter on this subject; and most of which will be found in the lectures of Mr. Astley Cooper. That there are these various associations of actions, between distant parts none can doubt; but so far are we from believing with doctor Good, that because there is a pain produced "at the glans penis by a calculus in the bladder," we are from hence to draw any inference favourable to the doctrine that he is advocating, we on the contrary think it has directly a contrary bearing. It is well known that an irritation of the hip will produce pain in the knee or foot—so that even tissues associated in action by means of nerves of volition throughout a limb, may have three several varieties of sympathy. First, an irritation at the foot may reach the cerebral structures, and produce different kinds of irritation, as irritative fever, which may prove fatal in a few days; a fatal collapse, or tetanus. Secondly, an irritation about the inguinal glands, or uterus, may lead to phlegmasia dolens of the leg and foot—or it may lead to irritative fever, to irritation of the stomach, mammæ, &c.

Now what does all this amount to, but that while we see associations of actions, in our physiological observations on the various organs or tissues, we also observe certain trains of association between various organs when examined pathologically. But we do not derive any fundamental doctrines from the latter fact, since, notwithstanding that we see irritation, of some parts or organs, giving rise to irritation in other organs or parts, and we find that instead of one certain relation between any two points, which thus sympathise that an irritation set up in one point, may transfer its influence towards the extremities, to the cerebral centre, or to some intermediate point in the viscera.

We do not therefore derive any satisfactory conclusion from the foregoing remarks of doctor Good, applicable to the "difficult and almost mysterious" subject under consideration. They serve to support what is acknowledged on all hands, that there are many links of connection, or a sort of consent of action, between different parts of the animal machine, both in its healthy and morbid states. But so far as our author has yet pursued the subject, we do not see that either the facts, or reasoning upon them, apply to tetanus so much as they do to many other diseases. We must refer to Mr. Hunter and others for information on the subject of sympathy in general, and shall proceed to notice doctor Good's attempt at an application of the principle we have already quoted from his work, to the theory of tetanus.

"In a continued chain of nervous fibres however, (says our author) this principle of sympathy which induces remote parts, and particularly remote extremities to associate in the same morbid action, is peculiarly conspicuous. Hence if a long muscle be lacerated in any part of its belly the tendinous terminations are often the chief seat of suffering."

This we conceive to be a most unhappy attempt at illustration. We have not in our experience been satisfied of the fact—but admitting it, by what "chain of nervous fibres" are we to explain the fact? Surely not by tracing the nerves of the belly of the muscle to their origin or insertion, into the tendinous ends of the muscle. In a word, there is no arrangement of nerves to account for such a fact, and if we admitted the whole fact and principle, we find nothing either explanatory of, or calculated to support, the inference which doctor Good intended to derive from it.

"As the ulnar nerve sends of twigs from the elbow to supply the forearm and fingers, a blow on the internal condyle of the humerus gives a tremendous sensation through the forearm and hand: and as the ulnar nerve itself is only an offset from a plexus or commissure of the cervical nerves which also give a large branch to the scapula, a paralysis of the ring or little finger has sometimes been removed by stimulating the scapular extremity, by a caustic applied at the inner angle of the scapula."

It seems proper to observe, in the first place, that our author is amiss in his anatomy; the ulnar nerve does not supply "the fingers," except the little and half of the next finger, and hence it is that if paralysis is cured, by "a caustic applied at the internal angle of the scapula," the cure of this disease in the "ring or little finger," may be ascribed to an impression on the ulnar nerve; but how are we to make the caustic exert its influence on the ulnar nerve in particular? It may be asked why will a caustic applied, at "the scapular extremity," not effect any of the other nerves of the arm, seeing they are all blended in one plexus in the axilla. But suppose we admit the fact and reasoning on this point—does it shed a ray of light upon the theory of tetanus? All the facts noticed relate to what may be called, by way of distinction, a reversed irritation. Tetanic irritations, it cannot be doubted, pass in all cases from the extremities, or some point more or less remote, towards the cerebral centre—we mean the encephalic, and spinal brain. This we infer from the fact, that evidences of congestion, or increased vascularity, is found in all post-obituary examinations, connected with the disease in question.

Doctor Good in attempting a direct application of the foregoing facts and observations to the theory of tetanus, says "in mapping the nervous ramifications which give rise to trismus or locked-jaw, we must regard the ganglionic system consisting of the various branches of the intercostal trunk, and the numerous branches which unite with it from the whole line of the spinal marrow, as constituting the centre; and as from this centre, we perceive ramifications radiating in every direction to the face, the entire length of the back, the upper and lower limbs, and the thorax and abdominal viscera, we see a foundation laid even by a continuous chain, for an association of remote parts and even extreme points in morbid changes, even though we may not be able, satisfactorily perhaps, in any instance, to trace out the individual line, by which the diseased action is carried forward, and to separate it from other lines with which it is inextricably interwoven."

Our author goes on to remind us of an interunion of nerves throughout the entire system, including in one chain of connexion, the nerves of sensation, and the sympathetic. But we may ask again, what has this to do with the theory of tetanus, more than with almost every disease to which we are subject. The facts stated serve to prove, what no body doubts, that notwithstanding the various peculiarities of structure of different parts, and of peculiarity of functions of those several parts, there is a close union, as well of the more directly sensorial organs, as of all others—which, indeed, is indispensably requisite for the construction of one entire machine, having many parts, all of which must harmonize, and chime together, to give full effect to one grand whole.

And if we see this harmony, consent of action, and mutual dependence in the healthy operations of the animal body, it is fairly to be presumed, that there will be peculiar associations of morbid changes, when one or more organs are interrupted in their healthy action. But admit all this, and what light does it afford us on the subject of tetanus? In short, the whole of the reflections of doctor Good upon tetanus are more applicable to common and well known sympathies, and taken as presented by that author, they are not particularly applicable to the disease before us.

To show how far our author has fallen short in his attempt at settling upon some satisfactory doctrine, which may serve as a guide in our curative intentions, it will only be necessary to point out the great variety of causes which give rise to tetanus. In doing this, we expect to correct in some measure, an

error, which we believe to prevail on this subject pretty generally. At least a distinguished member of the profession, not long since, in giving testimony before a Court, contended that tetanus is almost, if not entirely confined to punctured or contused wounds which do not suppurate—and the opinion is very common that tetanus is only to be apprehended in punctured or lacerated wounds. We believe that the risk is greatest in such cases, but far too much stress has been laid on this point, as will appear upon the following quotation from doctor Rush's works, and a few other facts.

Doctor Rush says, that "the following is a list of such wounds and lesions as have been known to induce the disease: wounds in the soles of the feet, the palms of the hands, and under the nails, by means of nails or splinters of wood, amputations, and fractures of the limbs, gunshot wounds, venesection, the extraction of a tooth, and the insertion of new teeth, the extirpation of a scirrhus, castration, a wound on the tongue, injury done to the feet by frost, stumping the toe in walking, cutting a nail too closely, cutting a corn too closely, abrasion of a toe by a tight shoe, a wound not more than an eighth of an inch upon the forehead, the stroke of a whip upon the arm, which only broke the skin, walking too soon upon a broken limb, the sting of a wasp upon the glans penis, a fish bone sticking in the throat, cutting the navel string in new born infants." These are all cases referable to wounds—to them we can add, that we have three times seen the disease supervene upon kindly suppurating wounds; in one case there had been a very large portion of skin torn off the fleshy part of the gastrocnemius muscle, which sloughed, and left as clean an ulcer, and as free and kindly a suppuration as I have ever seen; we have twice seen it supervene upon wounds made in amputating the female breast, where they were healing in the kindest manner, by the first intention, and nearly well; and doctor Allen says in his report of an interesting case in the present number of this Journal, that it was occasioned by a simple cut in the foot with an axe; and also that there was "suppuration in the wound before the occurrence of serious tetanic spasms."

Morgagni, page 106, vol. 1, gives us the case of a young lady who was bitten on the forefinger by a tame sparrow—"the finger became instantly bent, and could not again be extended," which he ascribed to the injury of a "nervous filament."—"The wound *suppurated and became increasingly painful*; the hand was swelled and contracted, and after some days, fever supervened."

When the wound had nearly healed, "tremor commenced in the feet, and soon propagated itself to the hands and whole body."—"On recovering from this state, the spasmodic affection did not cease, but recurred, after short intermission, sixteen or eighteen times a day." Our author was consulted by letter, but heard no more of the case. This case is remarkable from the fact of the spasms commencing in the feet.

We have still to notice another list of causes occasionally productive of tetanus, without wound or visible lesion. We shall again quote from doctor Rush. We are told by this author, that this disease may be caused by "cold applied suddenly to the body, after it has been exposed to intense heat," particularly, sleeping upon the ground after hot days; worms and certain acrid matters in the alimentary canal; certain poisonous vegetables, "as hemlock dropwort, and stramonium; it is sometimes a symptom of bilious fever, particularly in the island of Malta; it is likewise a symptom of that malignant state of fever which is brought on by the bite of a rabid animal, also by hysteria and gout; the grating noise produced by cutting with a knife upon a pewter plate, excited it in a servant, while he was waiting upon his master's table, in London, it proved fatal in three days; the sight of food after long fasting; drunkenness; emotions and passions of the mind; terror brought it on a brewer, in Philadelphia, fear excited it in a soldier, while he kneeled down to be shot; grief produced it in a case mentioned by doctor Wilson; parturition; acrimony of the meconium." Doctor Cooke, in his notes on Morgagni, says, that doctor Palmer saw a case of tetanus from inhaling coal-gas. Doctor Barton, in his medical and physical Journal, vol. 1, page 146, reports a case of tetanus from eating stramonium.

Such being the diversity of causes which give rise to tetanus, how vain the attempt, of doctor Good, to explain its nature upon any of the known or acknowledged laws of sympathy; still, as we have already said, doctor Good has thrown some glimmerings of light on the subject. We think he has totally failed in his attempt at unfolding this mysterious subject, but his observations corroborate what has often been attempted, and the truth of which cannot be doubted; that there are some general laws by which the human body is governed, that tend to regulate morbid derangements, as well as those that belong to the healthy economy. Believing this to be a self-evident proposition, we shall endeavor to trace the morbid action, and trains of actions connected with tetanus, by other laws than those heretofore advocated, and which we believe to be more clearly manifest, and

more fixed, than any of the usually acknowledged laws of sympathy.

In turning our attention, for a few moments, to the opinions of the ancients; we find them endeavoring to unfold these laws by dividing the phenomena of animal life into different branches—that is, while they acknowledged one animating principle, (the *ψυχή* of Hippocrates.) they divided the several phenomena into sets of functions, as the *vital, natural, and animal functions*. In the former, they included respiration and the circulation—in the second, the digestion, secretions, excretions, &c.—in the third, the various voluntary motions, passions, operations of the mind, and the several senses, as seeing, &c.

It is obvious, however, upon a moment's reflection, that notwithstanding the association in action of the respiratory organs, and the heart and arteries, that they are not directly connected in the same sensorial relations—thus the heart does not lose its motive power from division of the nerves of the neck; it is long in full operation before the lungs assume any function—whereas the division of the nerves of the neck, invariably destroys the action of the diaphragm, and of the entire respiratory apparatus, owing to the nerves of respiration being rooted in the neck.—These functions are, therefore, wrongly classed.

Similar objections apply to the natural functions—thus the process of digestion is merely a preparatory operation—the operation consists of an animalizing or assimilating power; whereas, secretion and excretion, must be acknowledged to be very different operations—the secreting operations can only be effected by the capillary vessels in their modelling power, in conjunction with the plastic fluids. It is true that the excretions are made up of recrementitious particles, but these, in the healthy state of the body, can only be thrown off by the plastic operations, in which there is an exchange of particle for particle, the *accretive* for the *excretive*.

We conceive that no sound objection can be made to the third division—it is in fact the animal life of the French, formed, as Richerand says, out of “the organs of sense, the nerves, the brain; while the muscles, and the bones, serve to maintain its (the animal machine) connection with external objects.” And it is not a little remarkable that the vital, and natural functions of the ancients are confounded or blended in what the followers of Dumas call organic life—consisting, as we are told, of “the digestive tube, and the organs of absorption, circulation, respiration, and secretion.” What, then, is the French doctrine but a different arrangement of the ancient division of functions?

We have endeavoured, in the present volume, to arrange the various branches, or modifications of the vital principle, which so obviously exist in nature, as to have been recognized by medical philosophers of all ages, but, which, owing to the inherent difficulty, growing out of many parts intricately interwoven, have been clouded with much obscurity.

We hold it to be self-evident that there is but one principle of life especially connected with the brainular and nervous systems; but, notwithstanding this unigenous condition of the grand primum mobile of the body, still, the operations of this principle, if not its nature, are variously modified, when it comes to exert an influence on the different tissues with which it is blended.

If our readers will turn their attention to our observations on "Irritation," page 368, of the present volume, and other parts which we shall notice as we proceed; we trust we shall be able to show, in the present instance, that our arrangement is not less rational than those which have preceded it; and that we, by tracing the animal body from its rudiments, will be enabled to follow out certain relations of tissues and functions, and concentrate them into a few obvious divisions, suited to the illustration of the morbid derangements connected with tetanus. We wish now to give a very brief recapitulation of our views of animal life, hoping that none will object to our remarks without a careful perusal of the whole of our observations on irritation.

We hold that the first link, in the chain of animal existence, is a sensory—that in the lower order of animals, and the germ of the more perfect animals, this sensory consists of medullary molecules. In the latter case, this imperfect sensory is endowed with a property by which itself becomes more perfect by growth, and also serves to model the material which is given to it, by the parent, into the proper form. This plastic power by which the germ is caused to become organized, and to advance in its growth afterwards, maintains the body by effecting a constant renewal of structures. Here then, we think, we clearly discern one modification of a vital force which pervades the whole body, giving substance, form, and durability, to the whole; and being obnoxious to diseased derangement almost independent of other parts or functions, as we may have occasion to show on some future occasion.

The first clear evidence of organization is the central organ of the circulation.—This all important organ commences a propelling action before any central sensorium is formed, or any muscle shaped; and acting thus in priority of other solid structures, how shall we refuse to recognize this tissue, (the heart and



vascular system,) as being in possession of a peculiar sensorial power. When we add to this rudimental knowledge, the well known fact, that certain medicines, particularly some of the narcotics, exert an influence upon this tissue and its functions, we think, we have very clear manifestation of the circulatory system being, to a certain extent, an independent one.

We have been led to believe that there are but two divisions of the vital principle which contribute to the sustentation of the body—these are the motive power of the heart, and its circle of tubular tissues; and the alimentary tube; with its various associated glands, and vessels co-operating with the capillaries of the blood vessels—the whole presenting two distinct, and, to a certain extent, independent sets of organs; but in the ultimate result or function, being in fact but one. Thus the heart as the centre of the vascular system, propels onward the blood—the alimentary tube, with its associated vessels, &c., supplies the necessary pabulum. A suitable papulum being produced, as the result of the digestive function, it is not only carried by the vascular system to every conceivable point of the body, but is assimilated to the animal nature, and thereby made fit material for renewing worn out parts, and suited to the action of the capillaries in their *assimilating*, and *expelling* powers; which powers extend to all the secretory and excretory operations, and to the continuance of life, by the more directly plastic operations.

Whatever may be thought of this view of the subject, under consideration, we think it pretty evident, that most of our remediate articles act through the media of the two systems which we have been examining. No one can be insensible of the fact that most of our remedies are directed to, and operate through these two systems, and operate of course on the nervous influences by which their healthy economy is sustained.

Do we not look to the blood-vessels for intelligence respecting general morbid derangements in a very great porportion of cases? And do we not, in a large proportion of our prescriptions, direct our measures for a relief to a reduction or increase of vascular action? and do we not thus impose peculiar impressions upon the vis a tergo, or the motive power of the vascular system? And do we not almost uniformly look to the state of the plastic operations, and search into the secretions and excretions, to judge of the amount of morbid derangement, in those sustaining powers? Often, indeed, we find the whole derangement to exist in the secretory organs, and hence it is, that by attention to the alimentary tube, as relates to food, drink, or medicine, or all three, we often cure very serious diseases—sometimes when

the blood-vessels are seriously implicated. In short, our practical observations of every day show us, that while the sanguiferous system is closely united in sympathy with the apparatus of nutrition, in their ultimate office of giving sustenance to the body, still it is equally obvious that they are, to a certain extent, independent of each other; so much so as to require oftentimes that our medicinal agents be specially directed to the one, or the other, as each individual case may require.

At page 381 of the present volume, and in other parts of our observations on irritations, we have attempted to show something of the nature of what has long been recognized under the name of the *vis insita*. It may not be amiss to offer a few remarks on this subject in this place.

That this is a peculiar modification of the vital principle is obvious from the circumstance, that, it is a power which is only occasionally operative—thus we soon exhaust the force of this power, by muscular exertion—fatigue soon occurs, and rest becomes indispensably necessary—in addition to which, it is absolutely essential that this power should be recruited by sleep—whereas the vital powers by which the heart acts, and the plastic operations are maintained, never cease their operations—so far from partaking of the sleeping, or resting, so essential to the muscular forces, they act with more regularity and effect, during sleep than during exercise.

We have been thus particular in pointing out these several modifications of the vital principle, chiefly for the purpose of showing, that while life is manifestly maintained by one principle of animation that still that principle, is either altered in its nature, by its association with certain structures, or, if it remains in itself unaltered, its influence is altered upon different tissues, by its action being changed by such peculiar union.

This view of the subject presents no difficulty, since we have a full confirmation of such peculiar modifications in the electrical fluid, in its association with different bodies. Thus, for instance, when we excite this fluid by a common machine, by means of friction, we have a certain relation between the positive and negative states, and certain other phenomena—when we observe the nature of this fluid in the Galvanic battery, and observe that the phenomena attending our experiments are varied, as we alter the disc of our plates, we shall thus find that there is one arrangement of the apparatus which, like the common electricity, acts more powerfully on the muscles, and another which shall much increase the intensity of heat eliminated by the machine—do we not see peculiar modifications? Here

are obviously distinct modifications, of the one common principle—modifications affected by changing the medium upon which *a common principle* acts. We shall not attempt to point out what may be the nature of the principle by which our bodies are sustained, but, we trust, we may have been in some degree successful in pointing out clear modifications, and shall endeavour now to make the application of our doctrine to the disease called tetanus.

We shall now endeavour to concentrate our observations on tetanus as rapidly as may be consistent with our views of the subject. Whatever may be thought of our theory, we feel perfectly confident of the inadmissibility of depletion, the necessity of resorting to stimulants, and that these must be of a particular class. To do this we must ask the patience of the reader while we briefly attend to the symptomatology and other circumstances connected with the disease before us.

We fully agree with doctor Rush in the opinion that it is wrong to speak of idiopathic and symptomatic tetanus, since "they all alike depend upon irritating impressions made upon some part of the body, producing a morbid excitement or disease in another." Again, "it is immaterial whether the impression be made upon the intestines by a worm, upon the ear by an ungrateful noise, upon the mind by a strong emotion, or upon the sole of the foot by a nail; it is alike communicated to the muscles." That is, it deranges the *vis insita*, and runs the tissue it governs into riot.

We have said that most diseases show themselves in some derangement of the plastic operations, or of the circulating power, but we believe that tetanus is one of the few exceptions to this fact. Our reading on this subject, and our observations at the bed-side, go to show, that the sanguiferous system is but little deranged; and we think never except when there is some accidental diseased association. The same may be said of the secretory and excretory operations; they are not materially and directly concerned, though sometimes accidentally associated.

The dissections of Larrey show, that there is vascular excitement, or perhaps more correctly speaking, turgescence of the esophagus in some cases; but, we are disposed to view this derangement as a consequence of muscular action. The translator of Larrey's work says, that he in his dissections found "the stomach and whole extent of the alimentary canal down to the rectum contained an abundance of a viscid, tenacious, yellow matter, resembling liquid gamboge, which on being exposed to the air, immediately effervesced, and continued to foam for the

space of a minute. This matter, very different from any secretion or excretion of the human body, was found more or less, in all subjects who died of tetanus."

These observations do not agree with those generally reported. If this fact existed so uniformly, as represented by the reporter of it, we must ascribe it to some accidental circumstances, of an endemical nature—we believe that such endemical influences sometimes prevail, which was the case in the Peninsular war, as represented by doctor Hennen and others.

This is perhaps the proper place to notice the fact of turgescence or congestion of the vessels, &c. of the brain, so generally noticed on dissection, by Mr. A. Cooper, and others; and which has been viewed by many as a proof of inflammatory action being the proximate cause of tetanus. This fact seems to militate against the opinion which we have advanced, that the vascular system is but little affected in cases of tetanus. If it be admitted that there is inflammatory congestion, still, it is but local; and, to all appearance, the general circulation is not involved in the derangement—this we infer from the fact, that there is seldom any remarkable disturbance of the pulse, and from the incontrovertible evidence which we have derived from long observation, showing the danger of depletion by the lancet. But we are far from admitting this opinion. We view this vascular turgescence as the effect of debility in the part, proceeding from a loss of sensorial energy, and more a consequence than the cause of the spasms.

We are pleased with the following observation of doctor Rush—"In general, however, the disease is so completely insulated in the muscles, and the arteries are so far below their par of excitement in frequency and force, that little can be expected from the remedy" (bloodletting.) We will not stop to quote the symptomatology from authors, suffice it to say, that that there are very few exceptions to be found in books, to the observations which we have made, that, in genuine tetanus, uncombined with any other diseased action, the bloodvessels are not so much affected; so far as we have observed, not till the disease has arrived at its last stage, after which we have uniformly found it prove fatal. In this advanced and forlorn state of the disease, there is a very peculiar disturbance of the pulse—a species of fluttering, showing plainly that it is the effect of cerebral irritation. In by-gone years we have sometimes been under the painful necessity of killing birds, which we had wounded in our gunning excursions—upon pressing the thumb so as to indent the cranium, we have sometimes produced almost instant death; but in most cases, a peculiar palpitation of the

heart was produced of a few minutes duration. We have been forcibly struck several times with the close resemblance of this irritative palpitation in the bird, and patients near the fatal termination of tetanus. Indeed, so far as we recollect observing increased action of the pulse, in cases of tetanus, it was the perturbed pulse usually seen in nervous irritations, being irregular, shattered, vibratory and compressible.

We shall now endeavour to bring our observations and reflections as nearly as possible to a focal point.

The human body has one sensorial apparatus; this apparatus either prepares as a secerning organ, an animating principle; or it is supplied by another system, the blood vessels, with a vivific principle. This principle having to blend with, and to operate upon different systems, is, by such blendings, modified in its operations. Hence it is, that we have a nutritive power, a circulating power, and a locomotive power—these branches of sensorial power which are instrumental in these operations, are plainly cognizable; and we have given the name *vis plastica* to the first, *vis a tergo* to the second, and *vis insita* to the third. Health consists in a due proportion of force among these several powers; and, equality of power can only exist while there is integrity of the several tissues.

These several sensorial branches give rise to, or are associated with a condition of the body called sensibility, it follows that if there be any derangement in either branch, that this product or associate of them, which has been called sensibility, must be disturbed in its operations. From this condition of sensibility it is, that we are enabled to observe certain phenomena attached to life, which we call sympathy. Although involved in obscurity, these laws are sufficiently obvious to enable us to explain some of their operations, both in a state of health, and disease.

We have already said that the *vis insita*, or the sensorial power appropriated to the muscular system, is inconstant in its operations, subject to exhaustion; and that it obviously requires the state of sleep for its accumulation, or preparation. And, it appears to be well understood, whatever be the nature of this branch of the sensorial power, that it is directly dependent upon the brain for its production, and is distributed to the muscles as it shall be required, through the medium of the nervous cords. Hence it follows, that the brain is the grand centre of the muscular power, and in many cases we direct this power specially, by an act of volition.

It appears, however, that this power so easily called up, and exerted in muscular action in health, is in some diseases liable to wrong or morbid action. What it is that tends to give rise to peculiarities to morbid action in any one muscle, or set of muscles, will probably for ever elude human observation, but as we see peculiar derangements of this power, from peculiar causes, we may presume to know something of its peculiar tendencies, under certain circumstances. This view of the subject brings us directly to the phenomena attending tetanus.

Thus the nerves of volition have, it may be presumed, something like a fixed point in the brain of the head and spinal marrow which may be called their plus point; and another which may be called the minus point, in the muscles which they respectively supply—this state of things applies to the hollow viscera also, since, whatever may be said of the sympathetic as the centre of nutritive power, these viscera have direct connection with the brain, by means of the *par vagum*.

Let us then imagine that some nerve at the minus point of some one or a set of nervous fibrils be thrown into a state of irritation. If that irritation be of the tetanic kind, we find by the symptoms of the disease, and especially by dissection in fatal cases, that this irritation passes directly to the plus end, of the nerves which are instrumental in muscular action. But while the irritation directs its course, from the *extreme point* to the *central point* of the nerves, there appears to be some law of morbid sympathy, which directs the irritation to certain muscles—those of the lower jaw in particular; and those of the back, and of the back of the neck, thus producing trismus, or opisthotonos. In some few cases this order is somewhat changed, and we have the anterior muscles under spasm, producing emprosthotonos—more rarely the disease is said to be lateral; or it may happen that the posterior and anterior muscles are equally excited, and the patient is rigidly fixed in a straight position.

It has been our particular aim, in all our speculations, to locate this disease in its true seat, with a view of adapting our remedies to the true state of the malady; and, we have been led to conclude that it is seated in the apparatus destined for giving rise to, and for regulating the vis insita of the animal body.

It may now be asked, what is tetanus? It is an inordinate muscular excitement, without material derangement of the nutritive or circulating powers.

What is the nature of this muscular excitement? It is a morbid disquietude—an increased action by a sort of morbid con-

straint, while there is less strength or power in the muscles to act. There is, moreover, a new morbid condition imposed on the muscles affected, which not only forces them into inordinate action, but tends rapidly to destroy or annihilate the *vis insita*, by preventing its resting or sleeping, without which it is soon destroyed.

We may here ask, what part of our animal nature requires sleep? It is the sensorial agency, which we call the *vis insita*. And hence it is that the body is speedily destroyed, that is, because there is a certain modification of sensorial power which can only be sustained by occasional rest, and by sleep; and which, in tetanus, is not only kept from sleeping, but is run, by the morbid derangement, into riot; and is soon destroyed if rest cannot be restored.

What then, are the indications of cure? They are to arrest the irritation, and thus give quietude, and sleep, to the *vis insita*; the other branches of sensorial power will, comparatively, take care of themselves.

How are these indications to be fulfilled? By the free exhibition of such medicines as tend directly to induce quietude, and sleep. By exhibiting, at the same time, such remedies as are known to increase the general excitement, or strength; and for the obvious reason that, the system is rapidly prostrated by exhaustion of the *vis insita*, occasioned by inordinate and constant muscular action.

But we have seen that there is a rapid accumulation of irritation throughout the *plus point* of the nerves. What indication does this present? That we should make counter irritation, by applying irritants to the spine, where the irritation is more especially concentrated.

This view of the subject, we hope, will be found to open the way for a rational practice—whatever may be thought of the reasoning, by which we arrive at our conclusions, it is certain that the weight of experience, of the profession, preponderates in favour of the practice which we shall recommend.

Our first indication is to allay irritation and inordinate action of the muscles, of a rapidly prostrating kind. Is not opium especially suited to this intention? This drug is not only more directly soporific and antispasmodic than any other, but is a direct, stimulant to the blood vessels, and as has been said by Paris, it “stands at the head of narcotics.” It therefore has a twofold influence—it allays disquietude and disposes to sleep; while it never fails to stimulate the heart and arteries, and thus imparts to them increased tone, and fulness of action; and thus counter-

acts, in some measure, at least, the tendency to debility of this system, which soon takes place as a consequence of the exhaustion from the over action of the *vis insita*.

What then shall we say to the employment of tobacco in such cases? Does its action, or influence upon the body, resemble that of opium? By no means—if it can, under any circumstances, allay the spasm of muscles, it must be by an indirect influence. Its first effort will be to weaken the action of the heart and arteries, by its influence on the nervous power of circulation; since it is well known that this is one of the narcotics which especially disturbs the heart, and reaches the muscles through the sanguiferous vessels, its first point of attack. It may be possible, that where there is sufficient vigor in the *vis a tergo* to bear its exhausting influence, the muscles will be prostrated by it; but let us recollect, that if there be occasional exceptions, at the onset of this disease, that in all cases, the disease tends rapidly to exhaust the muscular power; and it will follow, that if this powerful agent be given a little too late, by prostrating, in an especial manner, both the *vis a tergo*, and the *vis insita*, the patient will be destroyed. And, we think, it will be admitted, that, except so far as tobacco can be useful by diminishing muscular power, it cannot be useful at all, since it has no directly quieting or soporific power.

Tobacco not only exerts a prostrating influence over the *vis a tergo* highly dangerous, but it has a remarkable influence over the plastic power, as may be seen in the deathly influence which it exerts upon the stomach, giving rise, even in small doses, to the most deadly neausea. How will this deadly neausea agree with the second best remedy for tetanus, we mean wine, or ardent spirit? Besides, if it be our purpose to reduce inflammatory action, if it be evidently present, the lancet and purgatives, will prepare the way for opium.

Paris tells us in his *Pharmacologia*, vol. 1, page 163, that “there are certain substances which act on the *heart* at once, such is the *infusion of tobacco*, which suspends its action even before the animal ceases to respire, and kills by producing syncope.” He also says page 144, that baryta and its muriats like arsenic, affect life, by rendering the heart insensible of its blood. The same observation will apply to tartarized antimony,” and he should have said digitalis. Such remedies are, therefore, inadmissible in the treatment of tetanus.

Digitalis has been given in cases of tetanus, no doubt on account of its debilitating effects, and upon the presumption that the spasms are to be subdued by the reduction of muscular strength



or action. But the misapplication of this article is twofold in its nature. There being no arterial excitement, it is obviously wrong to employ agents which act specially and directly on the motive power of the heart and arteries—again, as the prevailing tendency of the spasmodic and unceasing action of the muscles is to produce rapid debility of the muscular power, it is dangerous to reduce the action of the heart and arteries; because, at this time, that is, pretty early in the disease, it is all important that we support the strength of the circulating apparatus; otherwise as the muscles sink under their own overaction, an additional danger will arise from a reduced force of circulation, whence the vis insita or muscular power is sustained; that is, by a regular supply of blood, both at the *minus* and *plus points* of the nerves sustaining that power.

The remarkably debilitating influence which digitalis is seen to exert over the heart and arteries in a state of excitement, and the salutary influence which this article exerts over internal aneurisms prove incontestably that its operation is directly on the heart, tending by reducing the nervous sensibility of this organ, to produce death by inducing syncope. In a word, we think it is obvious that certain articles as baryta, antimony, tobacco, digitalis, and perhaps others act directly upon the branch of sensorial power appropriated to the heart and arteries and are, therefore, wholly inadmissible in the treatment of tetanus.

Stramonium has also been pressed into service in the treatment of tetanus—we have not been able to lay hold of any thing satisfactory on the *modus operandi* of this article. We have seen persons under its influence, and have been led to believe that of all the more remarkable narcotics, it is least disposed to lead to quietude unless it may be in very small doses. We well recollect a debilitated patient whose constitution had been broken down by syphilis and mercury who twice applied the leaves to pretty extensive and ill-conditioned ulcers on his legs—in both instances it produced extreme anxiety, restlessness, raving, or maniacal delirium. We have in one instance seen it produce convulsions in a child—it is true excessive doses of opium will produce the same effects but I have no hesitation in saying that stramonium is not peculiarly disposed to allay disquietude like opium, and is not, therefore, suited to the treatment of tetanus. So far as we are acquainted with its character it seems best suited to periodic irritations as we see in epilepsy, asthma, &c. but in the intense, unrelenting spasmodic labor of the muscles in tetanus, we do not believe any reliance is to be placed on it.

We believe we have now noticed all the more remarkable narcotics which have been given in the treatment of tetanus—it remains to speak of alcohol, which is usually classed with them—but it may be remarked, that, this article is seldom, if ever, given with a view to the application of its narcotic influence.

We have said that the first indication in the cure of tetanus is to endeavour to induce quietude or rest in the muscles, and procure sleep. For this purpose, there is but one appropriate and efficient remedy, and that is *OPIMUM*.

Our second indication is to exhibit at the same time, such articles as are known to increase the general excitement or strength.—In doing this, it is not only necessary that we apply a new stimulus to the nerves of the stomach, &c., but it is essential that we also prefer such articles as are calculated to afford some nutrition, and hence the preference for good wine, where it can be obtained, over all other stimulants. Though in a lesser degree we presume it may be said that brandy and other ardent spirits do afford some nutriment—certain it is, that alcoholic liquors act with considerable force upon the circulatory system, and to some extent upon the nutritive system, as may be seen by the increased bulk of toppers who present an appearance of fattening, however unsound it may be. In short, in its first influence, it tends to induce plethora.

In a word, the second indication in the cure of tetanus, is best fulfilled by the free use of wine, or spirituous liquors. This we believe, not only because it corresponds with our theory, but because an impartial inquiry into the reports of physicians, who have treated the disease, is decidedly in its favour.

We must not forget that we are to give our potations in conjunction with opium, since two intentions are to be fulfilled, in almost all cases; that is, we must tranquillize the morbid and tumultuous muscular action by opiates, and sustain the *vis a tergo*, and general strength, by wine or brandy. We say that the first exerts a directly soothing influence upon the operations of the *vis insita*, and an indirect influence upon the *vis a tergo*, as manifested in the vigor imparted to the French soldiery, who took opium and cayenne pepper, as a substitute for food, which, they could not procure—whereas, the second remedy exerts a direct influence upon the *vis a tergo*, and an indirect and sustaining influence, upon the *vis insita*.

A third indication is to be fulfilled in obstinate cases of tetanus, which is to concentrate the irritation, as far as possible, to the surface—this is best done by issues to the spine; other irri-

tants, unless it be the moxa, are entirely too slow in their operation, or too feeble in their action.

We are reminded here of what may be termed an aphorism, given by doctor Allen, in his observations upon tetanus in the present volume, page 393. He says, "to control the spasms by opium, to excite the vascular system by stimulants, to concentrate the irritation and determine to the surface, appear to be the only certain indications." We consider this a most felicitous sentence upon tetanus, and worthy of record in letters of gold.

We have now disposed of our cardinal points in the treatment of tetanus, some minor points remain to be noticed. Among these, the most important are cases of the disease arising from intestinal irritation, to which infants seem to be liable more especially in hot climates. In these cases, the first indication is to remove the offending substance, by purgation. This may be safely done by the use of calomel and dover's powder, aided, if necessary, by castor oil. Should the spasms continue after removal of the offending sordes; opium and calomel, we believe, will be our best remedies, with some slight stimulation to the spine—the warm bath will probably be a useful adjuvant.

It has already been said in the present essay, that tetanus is sometimes associated with some other morbid derangement. Thus it may be induced by a wound in a habit predisposed to bilious disease, and in a miasmatic season. Under such circumstances it will be essentially necessary to attend to the concomitant disease. In such a case, an emetic in the very onset of the tetanic affection may be highly useful, followed up by a liberal use of calomel—sometimes with, and sometimes without opium, so as to keep up free alvine discharges, and yet at intervals, use opium so freely as to quiet the muscular derangement as much as possible. Castor oil—oil and tuppentine—croton oil, purgative injections, &c., may be necessary. Theory would suggest here, that if there are any well marked febrile symptoms, that, we must not use wine nor spirituous drinks, till we have reduced febrile action.

It will be supposed that in some of these cases, the lancet may be used cautiously with advantage. Dr. Rush tells us, that bloodletting was "employed once in the case of Mrs. Coates, at Kensington, and twice in the case of Miss Germon," both recovered. "The blood of Miss Germon was very sily." We may observe here that the first named patient lived in a sickly bilious part of Philadelphia, and the other had *very sily*

*blood*—and hence the admissibility of the remedy in those cases. We have reason, however, to believe, that doctor Rush did not rely on bleeding as his principle remedy, for he says, “I was enabled to cure both of them.” And, moreover, he immediately tells us, that the disease is “insulated in the muscles”—and “the disease seems to call for an elevation, instead of a diminution, of the excitement of the blood-vessels.”

The present writer does not recollect ever to have seen the blood sisy, in the disease in view, and doctor Rush says, “there is usually a feeble coherence, or total dissolution of the blood.”

“The bark,” (says doctor Rush,) has of late years been used in this disease with success—he notices the case of Col. Stone who he thinks was cured by it. It is not easy to see on what ground this remedy is given in tetanus. There may be cases of the disease supervening upon protracted intermittents in which the remedy might possibly be useful, but from the known efficacy of opium and alcohol, in the treatment of intermittents, there is reason for believing that they will supersede the use of bark. To give it in substance may tend to clog the stomach. And we must not forget, that the employment of the yellow bark is incompatible with the use of opium—this combination may render both inert.

In all febrile cases, or cases of deranged hepatic function, we should rely principally on calomel which will probably, always be found an useful adjuvant to opium and *spirits*.

One of the most appalling circumstances connected with tetanus remains to be noticed—it is the occasional irremediable closure of the jaws, and a spasmodic stricture of the esophagus which defies and baffles our art. In some cases it comes on early in the disease, and, in the course of its progress, so nearly resembles hydrophobia, with the exception of the occasional dread of water in that disease, that it would be difficult to say in what essential symptom they differed. Whenever this distressing condition has occurred under our notice, the disease has proved fatal.

What might be the effect of pretty extensive blistering, especially along the back, and covering the part with morphia, in addition to large quantities of laudanum by way of enemata? the latter we have used freely but ineffectually.

We are reminded of the following remarks by Mr. S. Cooper, speaking of the employment of the flexible tube, in cases of disability in the esophagus, he says, “tetanus is also mentioned by Bichat, the case being attended with a spasm of the masseter, that the lower jaw cannot be at all depressed. However, M.

Larrey, in Egypt, my friend the late Mr. C. W. Crutwell, of Bath, and other surgeons, have found, that an elastic gum catheter cannot be passed down the esophagus, in tetanic cases, owing to the violent spasms, and sense of suffocation, induced by the attempt."

Notwithstanding these unfavourable reports, we were not willing to stand an idle spectator to the perishing state of patients, thus lamentably situated. We, therefore, some years since, tried the tube in the case of a coloured boy whose jaws could not be opened. The introduction gave so much distress by exasperating the spasms, that we were compelled to withdraw it instantly. It may be worthy of remark that we made trial in this case of acupuncturation, and were momentarily much pleased to find that the patient opened his jaw tolerably well, after a few introductions of the needle. Before any advantage could be obtained of any importance, the jaws were again closely locked up, by the spasms, and refused to yield afterwards in any degree to the needle. We should place no reliance in this remedy.

In another case in which no remedies could be administered by the mouth, and where the tetanic disease seemed to be ushered in by hysteria, though the former disease was traumatic; we again tried the tube passed through the nostril. Extreme suffering arose from its introduction, which was manifested by tremendous spasms, and by alarming symptoms of suffocation. We withdrew the tube, after quickly injecting a large dose of laudanum and assafoetida. Governed somewhat by the fact that this disease had supervened upon hysteria, in a very irritable female habit, we persisted in the use of the tube, hoping that if laudanum and assafoetida could be administered freely, that we might possibly overrule the disease. We, therefore, resolved upon a second introduction of the tube, the patient not being able to suffer it to remain in the throat. We have no doubt the disease had now arrived at an incurable stage, and was very nigh its fatal termination. Having introduced the tube we produced a very unpleasant conflict, but believing that this expedient was the only alternative, and that in making this experiment we could not do harm, but, on the contrary, would thus fulfil an important indication, not only as regarded the life of the patient, but involving in its results the interests of future patients; we begged the patient to bear the presence of the instrument, till the spasm would subside—this was complied with, and having obtained a tolerable respite; about a dram of Tincture of opium, with as much Tincture of assafoetida, was in-

jected into the stomach—the moment the medicine came into contact with the stomach, it gave rise to the most agonizing spasms, with violently alarming symptoms of suffocation. The tube was speedily withdrawn, but it was too obvious that death was at hand, and in a little time our patient expired.

The facts above stated, together with some more remarkable phenomena, connected with tetanus, present some important considerations which we shall now proceed to notice. We have seen by the circumstances connected with the last mentioned case, that in these violent cases, in their advanced stage, that the inner coat of the stomach, as well as the esophageal lining, becomes superlatively sensible. While this fact serves to show us the extreme danger attending this morbid condition of the stomach, in some cases, it affords a strong motive for doing every thing in our power to guard against the occurrence of this symptom.

How then is this to be effected? chiefly, we think, by the free exhibition of opium in the beginning of the disease, and perhaps by external irritation to the parts remote from the stomach: whether issues, moxa, blisters, &c. ought to be applied to the epigastrium, to the spine, or to the extremities, must be determined by experience, at present we should prefer caustic to the spinal region.

We have no hesitation in offering our solemn protest against the use of the tube in tetanus, notwithstanding it answers so valuable a purpose in some other diseases. It, therefore, becomes the more important whenever the closure of the jaws seems to advance upon us, notwithstanding the use of antidotes, that we introduce a suitable piece of wood, lapped with linen rag between the teeth; and thus keep the jaws open. The patient's life may depend upon this expedient being applied before it is too late.

We are decidedly of the opinion that we saved the life of one patient by early attention to this circumstance. The under jaw became most rigidly fixed during most of the time; occasionally there was a little relaxation; then we availed ourselves of the opportunity thus offered, and introduced a thin piece of wood; by degrees we enlarged the opening—by persisting in this measure we kept the jaws sufficiently open to give laudanum with freedom, though very little drink could be taken for several days. It is particularly important here, that we resist the entreaties of the patients to remove the wedge from between the jaws. Our patient imagined that the pain, which she felt about the joint of the jaw, was increased by the inter-

posed body. This we must resist—it may be a matter of doubt as to the wedge increasing the pain, but certain it is, that in some cases, where the trismus is violent, if we do not insist on the use of this measure our patient may lose his life, because we cannot exhibit even laudanum by the mouth. We firmly believe that we saved the life of the young lady to whose case we have just had reference, by keeping the jaws sufficiently open to give laudanum freely.

The fact, which we have noticed, of the state of extreme morbid irritability of the stomach in some cases of tetanus, leads us to offer a few remarks.

At page 378 of the present volume, we have endeavoured to show a difference in the state of sensibility, by which different tissues are governed in their functional operations. We have noticed the fact that the stomach, bowels, &c., perform their ordinary operations without perception or consciousness—while the skin has a peculiar condition of sensibility, superinduced to enable us to perceive, as by the touch, and thus convey much important intelligence to the brain.

Now, while we contend for this peculiar condition of those structures respectively, we are well aware that the internal superficies are connected with nerves of sensation, so that we see in the nares, urethra, &c., that some of them at least, are highly sensible when irritated; but still, this is not perceptible in their ordinary actions.

We have in a former part of this essay said, that one of the indications of cure in tetanus, is to concentrate the irritation to the surface. If this indication be well founded, it will follow, that, as the inner superficies may be rendered preternaturally sensible, by medicinal articles, with safety; that, an indication of cure may be derived from this circumstance. In this way we account for the *modus operandi* of cantharides, as proposed by doctor Brown, of Kentucky.

Doctor Rush tells, what, indeed, was announced in the Journals, that “doctor Brown, of Kentucky, cured a case of tetanus by inflaming the stomach, by means of cantharides.”

It may be a question, how far it would be a rational practice to give opium to quiet spasm, by its influence on the sensorium, while we, at the same time, exhibited cantharides? Another important question, here is, whether by imposing supersensation of a peculiar kind, in the inner coat of the stomach, by means of cantharides, we would increase or lessen the chances of inviting tetanic action to the part? Analogy would incline us to adopt the latter opinion.

We have had direct proof of the salutary influence of cantharides over tetanus, where we succeeded in producing strangury by it. We were concerned in the treatment of a case of tetanus extremely violent; brought on by laying on the cold, damp ground in *camp*. We do not now, particularly remember all the treatment, but clearly recollect that, after several days duration of violent spasms, the tincture of cantharides was chiefly relied on. It was given in doses of two tea-spoonfuls—intervals not recollected;—so soon as strangury took place, the spasms abated, and were soon entirely removed by this remedy. Upon the whole, while we believe that cantharides will sometimes check this disease by concentrating irritation to some part of the inner surface, we are inclined to believe, that, little or nothing will be lost by rejecting it from our list of medicaments for tetanic diseases.

The profession seem to be generally agreed upon the propriety of exciting an irritation, at the point of injury by stimulating applications, and by incision in cases where the wound has closed. It seems probable, that, in a very great majority of cases, there is a reduced state of action in the part. We have great doubts, nevertheless, whether it is proper to open by incision. It must be confessed that it is extremely doubtful how far this can be useful, and there is reason for believing that it has originated in the old notion of tetanus arising from a contusion, or partial wound of a nerve; and that to divide this injured nerve will remove the cause of tetanus. Other remedies being always used, we have no criterion by which to judge of the value of this expedient. We would certainly not advise it.

Where there is deficiency of inflammation, or diminution of suppuration, we should certainly use the turpentine, and, indeed, we have often used it in threatened cases of tetanus, attended with a wound. But, doubtless, there are cases where, the part affected being in a state of supersensation, it would be improper to irritate still more; here, emollients will be the proper remedy.

It is truly remarkable of tetanic irritation, that, in ninety-nine cases in the hundred, where the disease arises from a wound, the irritation is unattended by pain or supersensation. We consider this an additional circumstance in favor of the physiological views which we have advocated in this essay; to wit, that there is a condition of sensibility which is unaccompanied by sensation, being a living *appetitus*; an attribute of the sensorium which governs nearly all the operations belonging to what has been called the natural functions, and the *vis insita*. It is through the latter attribute that tetanus so insidiously finds its inroad.



This leads us to one other speculative point, and then we are done. We have noticed a condition of the sensorial organs, in which we perceive a *plus point* to the nervous cords, and a *minus point* to each nervous fibril—and we would add, that it seems probable that the *minus points* are threefold in their nature—one terminating in the medulla allotted to nutrition, another to the nerves allotted to the circulation, and a third to the muscular power, or vis insita.

This admitted, we see how it is that an irritation may be set up in the muscular system without sensation, seeing that the muscular power, although under the influence of the will, and governed generally by perception, does not in all cases require perceptive action. Indeed, we find that, wherever their action is attended with sensation that they are in a morbid condition, and hence the painful nature of tetanic spasms. Here, after the disease is fully formed, we have supersensation—and hence, again the necessity of giving opium.

Doctor Allen, in his observations upon tetanus, in the present volume, reminds us of the fact of opium having been found undissolved in the stomach of persons who had died of that disease. We think well of this salutary caution, and believe with him, that it is better to give the opium in a liquid state. In addition to this consideration, there is another of much importance—it is this—One of the predominating tendencies of tetanus is to constriction of the esophagus, and this is its most dangerous symptom—we should, therefore, carefully avoid any thing which may serve, in the slightest degree, to cause constriction of this tube. Now, we have found in our own person, that, although we can conveniently swallow three or four pills, of ordinary size, at once; still in all cases, whatever be the mode of taking, or, whatever the number, we always feel a slight, but distinct sensation of constriction in the esophagus for several minutes afterwards; this may, therefore, prove a source of evil where the esophagus is disposed to take on much of the tetanic action.

It has been remarked by M. Boyer, that one of the symptoms of tetanus is constipation of the bowels, and that this is much increased by the free use of opium. Whatever be the causes—of the intestinal constriction, it is a well established fact, that benefit is derived from purgatives; and we think favorably of castor oil and turpentine.—It will be recollected that doctor Hamilton attaches high importance to his cure all, that is, *purging*, in tetanus.—No one, surely, will trust to such treatment.

We have at page 430, of this volume, suggested the use of morphia externally, upon blistered surfaces—the following case

which came to our notice while reading the proof sheet of our article on tetanus, is too interesting to pass over. This case has been reported by doctor Gaspard Cerioli, of Cremona.

"The subject of this case was a female, aged about twenty-nine, the mother of five children, a nurse, whose constitution was robust, and general health good. About the middle of October, 1828, she wounded herself over the right eye-brow, with a piece of wood, and applied cold water to the part, and likewise emollient poultices. Two days afterwards she was seized with strong contractions of the muscles of the neck and abdomen, accompanied with an incipient trismus. The tetanus became insensibly general, the spasms excessively painful, manifesting themselves occasionally in the limbs. On the 22nd of October she was admitted into the hospital, at Cremona, and on the 23d presented the following symptoms: Face red, eyes brilliant, sardonic laugh, nostrils dilated, noise in the ears, sense of weight and pain in the head, the latter insupportable in the wound, trismus well developed, *great hunger*, which would not be appeased by the permanent closure of the mouth; thirst ardent, respiration continually painful; spasmodic constrictions of the abdominal muscles; urine sparing, reddish and highly irritating when voided; constipation; *pulse frequent and hard*; intellectual faculties perfect; *insomnolence constant*. Venesection, warm baths from one to two hours; frictions of camphor and opium on the neck and articulation of the jaws; internally a third of a grain of acetate of morphine every second hour, and purgative enemata. All these means were continued till the 27th, without producing any amelioration; the disease on the contrary, had increased; the tetanic contractions had acquired the greatest intensity; the *clonic spasms* of the inferior limbs were more frequent and painful. This exasperation of the symptoms caused the suspension of the morphine and the reiteration of the bloodletting. 28th. Had a grain of ipecacuan every two hours, to produce perspiration, but the second dose caused vomiting and an aggravation of the symptoms; the medicine was therefore discontinued. Such was the case of the patient, which induced the belief that she must succumb very rapidly, when it was deemed right to resume the morphine, but to employ it *externally*. November 1st. A blister was applied to the neck, and when vesication was effected, the epidemis having been removed, lint, smeared with marsh-mallows ointment, to which was added one-fourth of a grain of morphine, in fine powder, was applied to the part. The same quantity was applied in the afternoon. *The effect produced was extremely remarkable*; in a few hours the clonic spasms

were weaker, the motions of the jaws more free, the contractions of the lineaments of the face became relaxed; the pains of the neck and back had diminished sensibly, the sufferer enjoyed a *tranquil sleep*, with slight occasional interruption. The following day the amelioration was augmented. A third of a grain of morphine was continued twice a day; the other medicines were suspended. The ointment was continued to the 10th., and on the 16th the patient left the hospital perfectly cured."—*The A. J. of the M. Sciences*, quoted from the *Annali Universali de Med.*

The reader will perceive, that our object in relating this case is to call attention to the use of morphine externally, particularly where the jaws are set. We by no means approve of the general treatment. Free bleeding in "*clonic spasms*," we do not approve.

We have said nothing of *doses*; here, we have only to say, that our remedies should be given in large doses, and conjointly.

The truly appalling nature of tetanus, and the unsettled state of its therapia; must be our apology for so extended an article on the subject.

ART. VIII. *Observations on Therapeutics.* By SAMUEL K. JENNINGS, M. D. Professor of Therapeutics and Materia Medica, Washington College, Baltimore.

(Continued from page 114, of the present volume.)

**T**HE opinion that the nerves are dependent, more or less, on the circulating blood, as well as on their respective sensorial roots, for a supply of those principles which maintain vitality is supported by various facts and considerations. The reader may think some of the following to be inapplicable to the subject, and possibly others deficient in regard to a just method:—but I hope my object will be understood and in due time appreciated.

If blood be extracted from the skin by scarification or puncture, it invariably presents a florid colour, denoting arterial blood. If extracted by venesection, in the usual way, its colour will vary, according to the degree of the circulation in the cutaneous blood vessels.

When the skin is constricted, and of course the circulation imperfect, the blood is of a dark colour.

When the circulation through the skin is full and free, the colour of the blood is florid; the colour always varying according to the degree of fulness of the cutaneous circulation.

If the skin is in a state of constriction on the commencement of the operation of blood letting, with an exact correspondence to the degree of the constriction, the blood will flow reluctantly, and will be of a dark colour. As the operation progresses, commonly the constriction retires; the circulation entering more freely into the vessels of the skin: and as this change takes place, the blood flows more freely and becomes more florid. The vulgar remark upon the fact, is, "that the blood has changed;" and this is with them, the signal for tying up the orifice.

It may be said, that the blood, as exhibited by scarification, &c., on the cuticular surface, is in fact arterial blood, which has undergone no change of colour since it left the heart. I will not contest that position, at this time. My purpose is, to submit the fact, that a free return, as well as a florid colour of the venous blood, are both dependent on a free circulation through the cutaneous vessels;—affording very strong probable grounds for my hypothesis, that the skin performs a functional operation corresponding to those of the lungs in respiration; the probable design of which is, that it may be auxiliary in sustaining the vitality and promoting the action of the veins and absorbent vessels generally.

We trust our friend will not disapprove of our offering, in this place, a few remarks upon his ingenious speculations, when we remind him of the fact, that, in doing so, we shall be acting in pursuance of our plan of conducting this Journal.

The close sympathy which exists between the function of the lungs and of the skin, has been very frequently the subject of inquiry. We do not mean to go into an extended investigation of what has been written on this subject—it is our intention to notice a few of the more remarkable circumstances which serve to point out this consent, or mutual dependence of action, between the lungs and the skin.

If we pour cold water suddenly upon the feet, or plunge the hands into it, while the body is hot, we shall involuntarily make a very deep inspiration, showing thereby a consent of action between the surface and the lungs.

If a person, predisposed to asthma, shall get his feet wet in cold water, he will, in general, be as liable to a visitation of his disease as if he had been exposed to a damp cold atmosphere. Does this not show a consent of parts, through the medium of sensibility?

Upon an exposure to a reduced temperature, particularly if there be dampness of the atmosphere, and the exposure be protracted; many persons so exposed, will be liable to derangement of the bronchial surfaces? At the same time there is evidence, from the dry and cold state of the skin, of an obstructed perspiration.

Every one is aware of the importance which the ancients, and many of the earlier moderns, attached to what they termed revulsion. By which, they meant, that diseases of the head, chest, &c., might be, in some measure, diverted by the application of articles to the surface—these applications were made to the feet in particular, with a view to their revulsive power. Hence the importance attached to sinapisms, by practitioners in general, and to the employment of garlic to the feet, by the celebrated Sydenham, where there was much disturbance of the head, in fever, &c.

It would seem that, here, as in many other instances, whenever the profession, or the more ingenious writers among them, could show that remedies were applied upon wrong theory, they too often rejected the practice. In this way much injury has, from time to time, been done to medical science.

Let us endeavour to show the true nature of what has been styled revulsion. It is well known that the skin is an organ of great importance to man, as an organ of perception. Thus, through the peculiar sensibility allotted to the fingers, we are enabled to collect much valuable information, by the sense of touch, and what has been called *tact*. We mention this fact, and another, that the toes may be rendered equally capable of reporting to the common sensory by the touch, and by *tact*, to prove the fact of some parts of the envelope of our bodies being pre-eminently perceptive.

Now we think, no one will refuse to acknowledge, that the hands and feet are peculiarly and pre-eminently perceptive; and, it would seem to follow as a consequence, that remedies applied to these points will influence the common sensory more than other parts, just in proportion as they possess the property of perceptibility in a greater degree.

This being the case, do we not see a substantial reason for the practice of the ancients and earlier moderns, in applying soothing, or stimulating applications, as each case might require, to parts best suited to receive their impressions, and report it to the sensorium. Upon the whole we approve the practice, but reject the idea of revulsion, as understood by the ancients. We say that the remarkable and acknowledged influence which we have over morbid derangements, by irritants, or their opposites, to the extremities, affords rational and substantial grounds for their use.

We believe that in most instances when we wish to reduce febrile action, by the application of cold water to the surface, as has been practised in typhus fever, that we will often obtain all the advantages of the bath, by immersing the hands and feet into cold water. Where we wish to soothe by a bath moderately warm, we may obtain oftentimes equal advantages by immersing the feet and hands in warmish water—and where we wish to stimulate by the hot bath, sinapisms, blisters, &c., we may readily obtain all their advantages by applying these articles to the feet and hands.

There is every reason to believe that, as there is a peculiar consent of action through each tissue, that we can very particularly influence the economy of the skin, both in health and disease, by operating upon its more perceptive parts. This brings to our recollection a fact known, perhaps to every person, that next to the hands and feet, the skin on the sides of the abdomen, is most perceptive—hence it is that, we see persons who wish to amuse themselves by tickling children, prefer the skin covering the short ribs. We are also reminded of a report, lately circulated, of a man in France, who killed his wives by tickling the soles of their feet. Now, whether this be true or not, it goes to show the prevalence of the opinion, that the feet are especially liable to be irritated by irritants applied to them.

If then, we see this ancient practice, founded on a belief in revulsion, at-

tended by so many evidences of its beneficial influence, let us not reject the practice because the theory is wrong. Seeing these points of sensorial concentration, let us not overlook the important fact, and thus lose the opportunity of doing much towards the relief of disease.

We more than suspect that many of our remedies, which we administer secundum artem by the mouth, operate upon the inner surface of the alimentary tube, just as our external applications do upon the skin. Certain it is, that many of them are not absorbed, and can therefore exert no other action than that of exciting the nerves of the inner surface, and thus reach the sensorium. This view of the subject leads us to believe, that the *internal practice*, as it may be called, has been too much used to the exclusion of the external; and that when we shall have duly appreciated this fact, we will see that too much attention cannot be paid to the skin.

Doctor Jennings notices the important fact of the blood of the skin being more florid than venous blood. We wish to suggest a few thoughts upon this point.

It will be admitted, we presume, that the lungs and skin are emunctories closely allied in their functions. The perspiration being obstructed, a sort of vicarious office will be taken on by the lungs, which will be evinced by a cough, some interruption to respiration, or a mucus discharge from the bronchial surfaces. And it has long since been decided, by actual experiment, that there is a considerable discharge of effete matter, through the transpiratory vessels of the skin. Surely, a discharge so considerable as that given off from the blood, in its passage through the skin, must render this fluid more florid and increase its plasticity. This operation, so essential to the healthy economy of the whole body, can only be effected through the nervous influence—and, that the skin is pre-eminently endowed with the sensorial influences, is manifested by its perceptibility. We have already, in our article on tetanus, in the present volume, attempted to point out a consent of action between the skin and the common sensorium, through the medium of nervous cords, having their *plus point* in the brain of the head and spine; and their *minus points* in every part of the body, but showing a remarkable consent of action between the *minus points* of the skin and the cerebral organs. And it seems worthy of notice that M. Gall says, that, the rete mucosum resembles the cineritious part of the brain.

The chemical reader will recollect that the blood in passing through the lungs is only deprived of its carbon—that is, notwithstanding the inspiration of oxygen it is not absorbed; but it is found that, all the oxygen is returned in expiration, in combination with the carbon which has become an effete article. Does it not follow, that what we term *sanguification*, cannot take place in the lungs. Depriving the blood of its carbon cannot be forming the blood. Where then is the blood formed? We say, in the capillaries. It is *here* that the plastic fluids undergo their ultimate changes—changes affecting their application in the renewal of structures, and changes affecting the dismissal of effete matter. In short, the phenomena of sustentation though the result of vital operations, bear a strong similitude to chemical operations—thus, where there is a continual exchange of particles of matter—a constant play between the *accretive* and the *excretive*, we have something like the double elective attraction seen in chemical phenomena. If, then, we admit this play of affinities, extending to a *decomposition* and *re-composition* of the blood, have we not the most cogent reason for believing, that the blood is not only the agent acted on, but is actually formed in these ultimate operations. The skin constituting a large portion of the capillary system, may be supposed to effect much in the process of sanguification. This *view* will attach additional importance to the physiology and pathology of the skin; and, when added to that of the transpira-

tory office, shows the high importance of this tissue, and the value of the article under review.

Exposure to the chilling atmosphere of a cold winter's day, if continued for a short time only, affects the system so slightly, that a return to the domestic fireside affords immediate comfort;—sufficient warmth is soon restored to the whole body. About the same degree of chillness will be produced by similar exposure, if attended with similar circumstances, and a similar restoration of comfortable warmth will be produced, without observable variation as to time; provided, the circulation of the blood through the cutaneous blood vessels, is about the same. And this will hold, whether the experiment be made and repeated by an individual, or by a number of different individuals, all enjoying very nearly similar states of health and vigour.

If the exposure be continued for half a day, or a whole day, or a night, the person having been so exposed, may come so near to a good fire, that by-standers in a comfortable state, may be surprised, that so much heat can be endured, whilst the chilled person scarcely feels the heat of the fire; in fact, he will remain very near to the fire a considerable space of time, before he will be sensibly affected by the heat, and not until the circulation of the blood is restored to the cutaneous blood vessels. Very soon after a return of blood to the skin, a sense of heat returns also. When the circulation is well re-established in the cutaneous vessels, the sensibility to heat will be so much increased, that the person who, when chilled, could remain almost in contact with the flame, will find it necessary to retire to the common distance; at which the temperature is comfortable to those, who have not been exposed.

In view of my hypothesis, there can be but one inference from this fact. The nerves of the skin, *while* the chill continues, are sustained chiefly by their connexion with their sensorial roots. The degree of auxiliary support afforded by the circulation in such circumstances, must necessarily be very limited. The vitality of the skin, therefore, becomes greatly diminished, and the action of the veins and absorbents generally, languish; and if such exposure be sufficiently extended, it will inevitably end in death. This fatal consequence, however, is avoided by a timely return to the fire. By the stimulation of heat, expansion is given to the vessels; by the increase of caloric, a more perfect fluidity is imparted to the blood, by which a free circulation is restored to the cutaneous vessels. With the return of the blood, the nerves are again replenished, and a corresponding activity is produced throughout the venous and

absorbent systems. It may be proper to remark here, that the degree of insensibility produced by the exposure, and the space of time which may be required to remain near to the fire for its correction, will be greater or less, and of longer or shorter duration, according to the vigour of the person exposed; that is according to the fulness and permanence of the circulation in the blood vessels of the skin.

A person well protected by warm clothing, will be enabled to sustain exposure a much longer time, than one thinly clad. His feet in the mean time, however well shod, will suffer more and become more insensible to heat, on his return to the fire, than any other part of his body. This fact is known to all travellers. The feet are more liable to be deprived of a due portion of the circulation. If the traveller when about to commence his journey in the morning, to resume it at noon or at night, will prepare his feet, by holding them naked to the fire, philosophically enduring the heat, until the soles of his feet shall feel a pungent smarting, approximating to the sensation felt after a burn or scald, he will be able to travel in comfort a much longer time. His feet will remain warm, and the improved circulation so maintained in the cutaneous vessels of the feet will be communicated to the skin generally, thus preserving the temperature and vitality of the whole surface.

A sudden application of cold water to the skin, as in using the shower-bath, or an exposure of the naked body, for a short space of time to a very cold atmosphere, if the person making the experiment be in the enjoyment of health and vigor, will be followed by a speedy and pleasant reaction, which will be exhibited more particularly by an improved circulation in the cutaneous blood-vessels. And this is in fact, the most proper indication, by which to judge of the utility of a cold bath. For if it should not be followed by a sufficient reaction, or if the reaction be tardy in making its appearance, requiring more time, at each subsequent repetition, cold bathing under such circumstances, will not only be useless, but if persisted in, will do mischief; as is well known to every physician. If the circulation of the cutaneous vessels be permanently active, in a degree which admits of cold bathing, a momentary suspension of the circulation will serve to accumulate the nervous power which is derived through the nerves from their sensorial roots. I here refer to the power which I consider to be exhibited in the preservation of the vitality of the skin, when nearly deprived of its circulation; as by exposure to wet or cold weather, as also by protracted fevers, when great paleness and dryness of



the surface, continued for many days, show, that the circulation of the blood in the cutaneous vessels, is at a very low ebb. By an accumulation of this power, the cutaneous blood-vessels become more active; hence, the returning blood produces a more effectual circulation, and the skin for a considerable space of time, exhibits an increased fulness and temperature, and an improvement of the complexion. By this improvement in the circulation, the nerves of the skin are made more energetic, the whole cuticular surface becomes more animated, and better prepared for still further improvement at the next repetition of the bath.

In some cases, in which bathing in common fountain or well water, is found to be ineffectual, sea-bathing proves very beneficial. The salt water, in such cases, first by its temperature serves to accumulate the power maintained by the function of the sensorium; then the salt with which it is impregnated, stimulates the cutaneous blood vessels, which the common fountain water cannot do. Hence persons, the vessels of whose skins are in a state too languid to resume their ordinary action, after having been subjected to the sedative effect of cold spring water, and would receive much injury from a repeated use of the common cold bath, frequently find sea-bathing very beneficial.

Any improvement of the health of invalids, consequent on cold bathing in fountains or salt water, commences in a more active state of the circulation in the vessels of the skin; and in all cases, when advantageously used, the bath makes this favourable impression. Hence in all such beneficial bathing the complexion of the patient is improved.

Moreover the good effect is permanent, in those cases only, in which the improvement of the complexion is permanent; and if the paleness of complexion return, there will be a simultaneous return of debility and all the previously existing symptoms of disease. When the beneficial effects continue to progress, the increasing vitality of the venous blood, serves to give additional tone to the absorbent vessels, and eventually to the blood making viscera, and therefore, cold bathing is beneficial chiefly in such cases as require little, if any medical treatment—cases of debility, needing exercise and other invigorating measures. It will readily be perceived that in a large majority of such cases, the shower bath is best: and that in no case, can it be safe for the patient to remain long immersed in cold water.

A continued or frequently repeated exposure to cold and wet or damp weather, has a constant tendency to diminish the circulation of the blood, in the vessels of the skin, and is often the

forerunner of dangerous disease. Persons when too long subjected to such exposure, will at first exhibit a pale appearance, bordering on the livid hue, and sometimes a sensation of chilliness is experienced for several days. The chilly feeling is the effect of a deficiency in the circulation of the cutaneous blood-vessels. But in many instances the vitality of the skin becomes gradually so much diminished, that the absence of the blood produces less sensible inconvenience, and the exposure is reiterated until a very injurious introversion of the excitement is established; sometimes producing dysentery; at other times that form of fever, which is sometimes so fatal to armies, when encamped on low and marshy grounds, and to individuals such as laborers, especially if much exposed, or poorly clad, fed, or lodged. In causes of this sort, I am not willing to attribute the ultimate morbid effects merely to the introversion of the circulation. It appears to me more probable, that when the nerves, on whose function the absorbent power of the returning circulation depends, become languid, the vitality of the portal circle, and the blood vessels of the intestines of the abdomen generally languish, and that the whole system must languish when the venous blood is returned, without having received the vitalizing influence which a free circulation through the cutaneous blood vessels is destined to afford.

This inquiry seems to deserve the greater attention, because the experience of every able physician, sustains the authority of Vogel, Stoll, Akenside, Richter, Mosely and others, in the conclusion, that patients, when greatly prostrated in this way, can be recovered in those instances only, in which the action of the cutaneous blood vessels can be recovered: that is, when an agreeable diaphoresis can be restored. And we all know how necessary it is, in all such cases, throughout the whole course of good management to keep the patient's skin clean, and sustain the cutaneous circulation.

These facts and considerations afford a satisfactory explanation of the necessity of having timely resource to the use of blisters and issues, in cases of extreme debility, and in such as prove to be obstinate and chronic; and in many instances of repeating and perpetuating them for a long time. It is desirable that this subject should be more generally understood by the community. Many valuable lives have been lost, because attending physicians have found it difficult to overcome the prejudices of parents and friends, who not perceiving the importance of the treatment, and willing to avoid the supposed distress and great inconvenience which it must produce; not un-

derstanding, that, the more feeble and helpless the patient, the greater the necessity of the practice; and thus in the exercise of tender compassion, dearest friends may be permitted to perish. Ill fated tenderness, when helpless widow and children are to be thrown upon the benevolence of an unfeeling world!

In any ordinary instance of debility from loss of blood, as in cases of a wound, or from any sudden and copious evacuations, as in cholera, an appropriate use of opium, ether, wine, &c. will commonly afford the necessary relief. By the stimulant and cordial agency of these articles, when well timed and administered in sufficient portions, the blood is propelled to the surface; and the action which pertains, *sui generis*, to the cutaneous blood-vessels is maintained; which is evident in the degree of perspiration and change of complexion which follow the exhibition of the remedies. And if these artificial assimilations to health can be sustained, until the patient can take sufficient food and replace the lost blood, he will recover, without any special treatment being addressed to his skin. But if the case should be mismanaged; if the sufferer should be permitted to drench himself with cold water, because he feels excessive thirst; or if he lie uncovered, exposed to the cold air and perhaps artificially fanned, because he has a sensation of heat and, therefore, thinks himself hot; which he will do, when at the same time, to a by-stander, his skin is nearly as cold as death; and especially, if this kind of treatment should be continued for twenty-four or forty-eight hours, the nerves of the skin will begin to lose their vitality because of the absence of the blood from the cutaneous blood vessels, and then the opium, wine, &c. which if timely employed, would have afforded certain relief, may come too late.

The reader will here permit me to repeat a part of the foregoing statement, with intention to make more clear and distinct the therapeutics involved in the case. If debility from loss of blood, &c., be recent and not too great, appropriate stimulants and cordial drinks continued for a few days, will ensure recovery. This very simple treatment will serve to keep up the excitement of the skin; if this point be gained and maintained, all that is requisite in the case will follow in course. This general statement includes the whole of the fundamental principles, which should regulate the employment of diaphoretic agents.

When opium, wine, &c., prove insufficient at the first, or when, after having been sufficient for a while, they begin to fail in maintaining the excitement of the cutaneous blood-vessels, we may, by the addition of sinapisms, external heat, and epispastics,

as auxiliaries, in favour of the cutaneous excitement, accomplish the same ultimate object, in all manageable cases.

This in like manner includes all the doctrines which should direct us in the application of rubefacients and epispastics;—the time which has been called the blistering point; the extent of surface to be blistered; the part of the body to which the application should be made; and the occasion for repetition and continuance.

The doctrines which pertain to diaphoretics, include all those instances in which the vitality of the skin and its concomitant susceptibility of excitement is such, that appropriate internal stimulants and cordials prove effectual in maintaining a sufficient circulation of the blood through the cutaneous blood vessels.

The doctrines which relate to epispastics, include those cases which, in addition to the internal agency of stimulants and cordials, require the aid of external irritants, &c.

I propose pursuing each of these topics, keeping the above principles in view.

Some good treatises have been written on diaphoretics. But nearly all that I have seen, have particular respect to the treatment necessary for correcting what the writers denominate “an obstructed perspiration.” The latest and best writers have advanced beyond this view, so far only, as to mark well the distinctions to be regarded in respect to the “opposite states of the system,” in which such obstruction may occur;—since it may depend on, or be associated with a strong febrile action of the heart and arteries; or it may be consequent on a “slow and languid circulation.” This distinction is an important step towards the true philosophy of diaphoretics; in fact, it is an epitome of the whole subject. But it falls short of affording all the instructions necessary to guide the young physician in his therapeutics, in treating morbid derangements of the skin. He is taught by the books, that when perspiration “is deficient, or entirely suspended, in any instance of high vascular action,” his remedies must be very different from those which are calculated to excite or restore it in an opposite state of the system. That in the former case, his diaphoretic agents must be such as have a direct tendency to lessen the action of the heart and arteries, and at the same time relax the mouths of the transpiratory vessels. Hence cold ablutions, refrigerants, antimonials and blood-letting, are very often speedily and manifestly diaphoretic.

On the contrary, when there is a torpor of this function, accompanied with a languid circulation, and a pale, shrivelled and cold skin, recourse must be had to diaphoretics of a stimulant

character, with a suitable attention to the physiology of the skin and the corresponding laws which must regulate our views of its pathology, permit me to inquire what idea is conveyed by the terms "obstructed perspiration?" And what by the terms "perspiration restored?"

According to the facts above noticed, if the circulation of the blood in the cutaneous blood-vessels, be partially suspended for a short time only, the system being in ordinary health, the reaction of those vessels will be speedy and pleasant, accompanied with a perceptible and agreeable perspiration. This is exemplified by the use of the shower bath, or by stepping about a few minutes, undressed, in the open air. So also in Winter, exposure without doors for a short time, leaves the cutaneous blood-vessels in a state, which, on returning to the fire, in the usual way, is followed by a similar reaction. The skin appears to have received an organism particularly suited to this kind of alternation, of suspension and reaction, of the circulation in its blood-vessels. But if the suspension be continued beyond the limits within which, the reaction takes place, spontaneously, a stricture of the vessels succeeds, presenting the state of things, which doctor Cullen denominated, a spasm. This is the result of an accumulation of vitality, as it is dependent on the sensorial roots of the nerves of the skin, and will be gradually increased for a certain length of time; after which, it will gradually subside and leave the vessels which were under its influence, collapsed. This last condition is consequent on the gradual evanescence of the vitality of the nerves of the skin, which cannot be sustained by the sensorial roots, beyond a certain period, if they are deprived of the support which is supplied by the circulation of the blood. So long as the stricture remains in considerable force, the whole system is more than usually excitable, and if not relieved in time by reaction of the cutaneous vessels, is liable to be subjected to morbid determination of the accumulated vitality. In such an event, if the person exposed has a vigorous system; the determination will be marked with great energy. The heart and arteries, most commonly, become the conductors to give it direction, and it will be impelled with a degree of force, corresponding to the accumulation.

If the arteries of the lungs and their membranes should be congested, there is produced the disease of the chest, vulgarly denominated a pleurisy. If the blood vessels of the abdominal viscera become too much excited, there is presented an instance of enteritis, &c. If, however, the vessels of the lungs, of the ab-

dominal viscera, and of the head, which are also liable to injury, can maintain their integrity until the struggle subsides, the circulation of the cutaneous vessels will be recovered and manifested by free perspiration—the accumulated vitality is expended, and the action of the heart and arteries comes down to the grade at which this state of things readily takes place.

The foregoing remarks have been made, having in view a supposed healthful condition of the viscera. It must be obvious, that whenever the cutaneous blood-vessels are in a state of constriction, or collapse, in either of which circumstances there will be the appearance of an obstructed perspiration, the blood must be received by the vessels of the viscera, and, in my opinion, chiefly by those of the abdomen.

There is a diurnal influx and reflux from the surface to the viscera which justifies the conclusion, that the blood-vessels of the abdominal viscera, are prepared by a suitable organization, to admit of the influx, and suffer it for a certain length of time without injury. This occurs under ordinary circumstances, during our sleeping hours. By this provision, the system is prepared to meet the repulsive effect of cold upon the cutaneous blood-vessels. Hence, if not too much exposed to cold when we sleep, or if not too long exposed to cold or wet weather, at any one time; or if not too frequently repeated, each instance of this kind of influx or introversion, will be spontaneously corrected, by the reflux or reaction, which on the return of morning upon taking exercise and refreshment, or on returning to the fire after exposure, is continually experienced by persons in ordinary good health. But if this spontaneous reaction should not take place in the usual manner, and the blood is too much delayed in the vessels of the abdominal viscera, a stricture of the cutaneous blood-vessels will be an inevitable consequence, which will be accompanied with headach, chilliness, listlessness, stiffness of the limbs, and sometimes with nausea, thirst and wandering pains. In every such instance, it is necessary to have a proper regard to the state of the viscera in making an estimate as to the probability of a spontaneous reaction of the cutaneous vessels. If the general circulation is not materially impeded by plethora, and no one viscus is in a state of infarction, bathing the patient's feet, in hot water, giving him a cup or two of hot tea, and covering him warmly in bed, will be effectual, in correcting the stricture and in restoring the cutaneous circulation, that is, "restoring the perspiration."

In any instance, however, in which there is considerable ple-

thorax, or the blood-vessels of the viscera have been in a state of distention, until their tone is too much impaired to consent with the arrangement intended to favour centrifugal action, or when any one or more of the viscera is in a state of congestion, neither pediluvium, nor hot drinks, nor retiring to bed, nor the agency of any stimulating or diaphoretic medicine, will be efficacious in correcting the stricture. In consequence of the plethora, the blood is not in a state of complete assimilation. It is deficient in respect to all the influences derived from a free circulation through the lungs and skin. A considerable portion of effete matter is retained in consequence of its languid circulation through the discerning organs, causing these organs also to languish. Moreover, because of the imperfect state of the blood, and the condition of the sensorium, the nerves, and all the viscera, are continually growing worse. In every such case, the system must be released from its thralldom by the necessary depletion, before any diaphoretic agent can be made to take effect. And yet after the necessary bloodletting, and purging, in a majority of instances, any agreeable stimulant drink, if taken in sufficient quantity, will be followed by a pleasant diaphoresis. Under such circumstances the heart and arteries readily command the remaining volume of fluids, the viscera lightened of their excessive load, perform their functions well, the blood again becomes charged with its vitalizing principles, and is propelled freely to the surface, and if the correction is made in time, the skin by its *sui generis* action, will admit and circulate its portion, which will be evinced by a return of perspiration. If the case have been attended with some delay, in addition to the requisite depletion, it may be necessary to make an appropriate application of external heat and administer internally some diaphoretic agent, calculated to favour a determination of the circulation to the capillary vessels of the skin without materially augmenting the action of the heart and arteries. Under circumstances of this sort, we procure the most perfect instances of diaphoresis.

When the cutaneous vessels have been long in a state nearly destitute of circulation, such as subjects the nerves to a condition approximating to torpor, which is always accompanied by a collapsed state of the skin, there will be much additional difficulty. Some infarction of the viscera will be found to have previously existed, so long, that the blood will be more or less deteriorated. There will be found to exist, a corresponding degree of general debility, such as will, *pro tem.* forbid bloodletting, or much depletion in any way. In such a case, a potent

stimulant would probably endanger the infarcted viscus, and a mild diaphoretic, would not be sufficient to recover the circulation of the cutaneous vessels. There will be occasion therefore, to employ a train of preparatory measures. The bowels must be evacuated in a manner accommodated to the strength of the patient; external heat must be used in a manner having respect to the time of duration, which will probably be required to accomplish the intention; then some appropriate diaphoretic drink must be administered internally; as an infusion of rad. serpent. virginian; adding when necessary, spt. mindereri, wine whey, &c. &c.

By this treatment, it is probable, that a part of the excess of blood detained in the veins of the viscera, will be transfused into the arteries, and may possibly produce a degree of tone in the arterial action which should be corrected by bloodletting; which by the by, is always a favourable occurrence, whenever it takes place; inasmuch as, it reports an improvement in the condition of the veins, and of the nerves dependent on the circulation through the capillary vessels of the surface.

If this occurrence should take place whilst the patient is under the influence of the diaphoretic management, or at any time after the intention may be considered to have been accomplished, it is as necessary to correct the tension of the arterial action by depletion, as if no appearance of debility had occurred in the first instance. A condition of things corresponding to that which is presented in an instance of this kind, sometimes occurs spontaneously.

An elderly lady, say fifty years of age, who had been a long time subject to cough, without appetite for food, having occasional headach, some unnatural thirst, confined bowels, and a good deal of the time unable to sit up long at once, having occasionally made use of gentle laxatives, at considerable intervals, at length, rather unexpectedly, felt so much better, that, in the evening of the same day, after having sent for me in the morning, she declined any medical attention, believing she was so much improved as to need no prescription. She was sitting up. But there was a livid paleness of complexion, and a peculiar feebleness of the arterial action, without frequency or discoverable tension, which led me to apprehend that she would be disappointed. I was the more apprehensive, because it appeared to me that her respiration was in some degree restricted, although an attempt at a full inspiration gave no sensible inconvenience. I did not think her convalescent; but was informed, if things did not progress agreeably to her expectation, she would



let me hear from her. The following day she still considered herself to be doing well. Had, on the whole, an agreeable night. The second day after I left her she was disposed to take nourishment; but whilst in the act of eating dinner, was suddenly taken with a violent chill, like the onset of pneumonitis, followed very quickly with a piercing pain in her breast, great difficulty of breathing, insatiate thirst, &c. I was sent for, in haste, reached her in the evening, and found her very ill. Her case was now obviously inflammatory, requiring bloodletting, which was repeated daily, for three days, in each instance affording great comfort. When the violence of the inflammatory action was subdued, as I expected, the case was marked with considerable debility, on account of which, after each bloodletting, heated bricks, wrapped in napkins moistened with vinegar, were applied to her feet and knees, and several times exchanged, so as to maintain the temperature, ten or twelve hours. And after the second bleeding, a large epispastic, ten by twelve inches, was applied over the epigastric and hypochondriac regions, spiritus mindereri and oxymel scillæ, were administered through the day, to which were added a little camphorated tincture of opium and nitrous ether, through the night. The case progressed very comfortably, for some weeks, but the disposition to phthisis pulmonalis, still prevailed and the patient continued to decline.

Had there been less sensorial activity in this case, the inflammatory attack could not have occurred. Similar appearances, in autumn and with sound lungs, probably would have eventuated in a protracted typhoid fever. It was winter, and although the circulation of the cutaneous blood-vessels was languid, the nervous power was gradually accumulated, until the system was sufficiently charged for a spontaneous reaction. In the mean time, the stricture of the cutaneous vessels, which were bordering on the state of collapse, prevented a free and general distribution of the circulation, in consequence of which the pulmonary arteries were subjected to a very alarming morbid action.

This attack upon the lungs was recent, although the patient had been complaining for a long time. In collating this case with those in which, apparent debility under the influence of stimulant diaphoretic agents, is abruptly followed by inflammatory appearances, it is necessary to invite attention to the following particulars. The accumulated and apparently latent vitality, in the cases referred to above, is roused by means of artificial excitants, made the more stimulant by the concomitant employment of heat. In this case, a similar accumulation existed, and was permitted to progress, till the natural or ordinary stimuli

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were sufficient to rouse the system to a spontaneous reaction, so strong as to superinduce a pulmonitis.\* It is not a common occurrence, that the system when fallen into the state of a collapsed surface, will be so roused by a course of diaphoretic management, as to require bloodletting. And cases like the one just now described, are also rare; whenever either of the circumstances does occur it will be found useful to treat the patient according to the plan of practice above stated.

The foregoing remarks, in their general bearings, have been made in view of the circumstances which obtain, pending the time of the predisposition, or forming state of disease. There are other considerations claiming attention in every instance when disease is established;—for instance, when some important viscus shall be found in a state of congestion, the first concern of the physician then is to protect the endangered organ. Blood-letting, catharsis, emesis, aided by the milder remedies, as aperients, refrigerants, &c., are the leading remedies, and when necessary, may be aided by alterants, &c. Throughout the whole course of the treatment, especial attention should be paid to the state of the cutaneous blood-vessels, so as to guard them against a stricture, and, above all, against a collapse; and, therefore, when epispastics are required in any case, they should be promptly applied, and repeated, and extended, in a manner commensurate to the exigencies of the case.

(To be continued.)

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ART. IX. *A case of Hemiplegia, attended by peculiar mental derangement, with observations.* By JOHN J. MYERS, M. D. Carlisle.

**H**AVING recently seen a case of Hemiplegia, exemplifying so clearly the doctrine, that the faculties of the mind are double, and that each Hemisphere of the brain contains a distinct set of organs, whose functional action under certain peculiar circumstances, is separate and independent, I am induced to send a report of it for publication. I am not aware, that a case exactly similar, exists upon record—or at least one, in which the

\* A sufficient daily development of the cutaneous circulation would prevent such an attack in almost every instance.

paralysis was so well marked, or attended with such peculiar mental derangement.

In November last, I was called in great haste to visit a patient, aged about 35—of a strong robust plethoric habit, and occasionally given to intemperance. His occupation was that of a farmer, priding himself exceedingly upon his physical powers, and his unceasing habits of industry.

I found him completely prostrated, the whole of the right side utterly insensible, and divided from the sensible side, by a direct line running down the body, forming a distinct case of Hemiplegia. The powers of his mind were quite natural and unimpaired, except in moments of extreme pain, which appeared to affect the transverse curve of the colon, spasmodically. Upon inquiring into the case, I found that he had been subject, for some time to sudden spasmodic attacks of colic, upon the least imprudence of diet, attended always with partial paralysis—and from the seat of his pain, the nature of the attack, and other symptoms, I was led to believe, that his present situation arose from a similar cause. The family informed me that the recurrence of the pains was becoming much more frequent and severe, so much so as to deprive the patient of reason, and throw him into most alarming convulsions. As there appeared to be a considerable determination of blood to the head—the face flushed, the veins of the neck much swollen, and the pulse demanding it, I bled freely from the unaffected arm, and administered a mixture of laudanum and ether, which had the desired effect of lessening the spasm, and producing much bodily composure. I found upon further inquiry, that he had been complaining for some days, and on going to bed had imprudently eaten an unusually hearty meal of *Buckwheat cakes*, which at once accounted for his present disorder. I immediately gave him 50 grs. jalap and about  $\frac{1}{2}$  gr. tart. emetic in combination, intending to produce an operation as soon as possible.

His mind now became very wavering and unsettled, attended with the peculiarities which I shall presently mention, and the convulsive attack of pain much abated. He would occasionally become quite loquacious, and revert to local occurrences with a great deal of precision; but the most remarkable peculiarity in the case was the fact of his believing that the sensible and insensible sides of his body, were two distinct persons, governed by an independent and separate power—and throughout the whole of his alienation, at continual variance; disputing and wrangling in the most spirited manner. Some of his dialogues, were most amusing and interesting, convincing the by-

standers that if there were not really two persons in *fact*, there was a *twofold* agency, exerting its separate and distinct influence upon one individual. For instance, he would imagine that one half of his body was a *gentleman*, (to use his own expressions,) and the other half, his servant or working man; and under this impression would order and direct, in a tone of authority, perfectly natural, or give his reprimands in the sharpest manner, complaining bitterly of his inability to enforce his commands by corporeal chastisement. The next moment he would imagine himself at work, and much annoyed and imposed upon, by a lazy, worthless acquaintance, notorious in the neighbourhood, who was continually clinging and fondling on his person, preventing him from work, and at such times the delusion was so perfect, that both his language and voice appeared to adapt themselves to the peculiar condition of the part he was acting. He would reproach the idleness of his companion, in the strongest terms of indignation, and endeavour by gestures, and even *looks*, from the side unaffected, to express his contempt, which, calling forth a retort, accompanied with sarcastic invectives, would throw the industrious half into the most violent rage, while the dormant and insensible side would appear to enjoy his bursts of passion, with the greatest possible satisfaction; indeed, the mental warfare, was carried on with so much *rationality*, and the two divisions governed and directed by an agency, apparently so independent and distinct, that the conclusion was irresistible, that the mind had partaken intimately of the disease of the body, and that one half of the mental power had become involved in the paralysis, retaining a sufficiency of energy, however, to produce the above peculiarities. This state of things continued, perhaps for an hour, when the cathartic acted powerfully, and the mind and body became perfectly easy and composed, leaving the patient suffering under the ordinary symptoms of Hemiplegia, which by the usual treatment, was entirely removed in a few weeks.

The only case of a similar nature that I ever met with, is one related by doctor Gall—"who says he attended a case of insanity, in a minister, for three years, who imagined himself insane on one side, and observed the insanity with the other—heard continually on his left side reproaches and injuries, and turned his head in that direction, in order to look at the person complaining. Long after being cured, if he happened to be angry, or if he drank more than he was accustomed to do, he observed in his left side a tendency to his former alienation."

The *modern* doctrines of phrenology, are becoming very ge-

nerally established, and as the profession are busily engaged, canvassing the propriety of so important an innovation, perhaps the above case may not be uninteresting to some of the profession.

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ART. X. *Case of aneurism of the Arteria Innominata, involving the subclavian and the root of the carotid, successfully treated by tying the carotid artery.* By VALENTINE MOTT, M. D. Professor of Surgery, New York.

Taken from the American Journal of the Medical Sciences.

OUR readers may recollect that we noticed the observations of Mr. Wardrop, respecting ligature on the *distal side*, for the cure of aneurism of the arteria innominata. It was there stated, that Mr. Wardrop had succeeded in curing a case by the new operation; and, also, that Mr. Evans had obtained a similar favorable result.—See page 242 of the present volume.

By the heading of this article it appears that doctor Mott has obtained a successful issue, by the method recommended by Mr. Wardrop. The several very serious objections to tying the innominata itself, together with the fact of its having twice failed to save life, render the operation of Mr. Wardrop peculiarly interesting; and we are much pleased to find, that it has fallen to the lot of an American surgeon to come in so early for a share of the credit due to surgical enterprise for so grand an achievement. We have thought proper to quote the case entire.

“NOTWITHSTANDING the tone of decided reprobation and ridicule with which Allen Burns expresses himself concerning Brasdor’s proposition to apply the ligature upon the anticardial side of certain aneurismal tumors, and the numerous arguments urged against the revival of this operation by some professional critics of considerable authority, experience seems to have shown that it is not only safe, but in some cases superior to the Hunterian mode of treatment. Some of the cases in which the anticardial side of the tumor has lately been performed in Europe, are said to have proved successful; and I am gratified to have it in my power to add another instance of its success in, perhaps, the first case that this operation has been performed in America.

“Moses B. Gardner, ætat. 51, by profession a farmer, of sound constitution and good habits of life, applied to me some time in March for advice.

“He gave the following relation of his case: About three years ago, while occupied in removing a building, and compel-

led to lift heavy weights, he was attacked with pain in the upper and back part of the neck. This lasted till the month of January, when it extended to the right shoulder and arm, and continued until the following May; it then partially subsided, and he observed his voice becoming hoarse, which he attributed to exposure and consequent cold. About eighteen months since, while shaving, he discovered a small swelling at the upper part of the breast bone, but did not remark any throbbing in it until sometime afterwards. He had consulted a physician, but received no positive opinion on the case.

"Upon examination, I found above the sternum a pulsating tumor, about the size of a pigeon's egg, spreading some distance under the clavicular and sternal portions of the right mastoideus muscle in the course of the subclavian artery, and extending as low down upon the pleura as the second rib, compressing more or less the bronchial tubes, and producing on the least coughing or exercise a wheezing, not unlike that of asthma. He shrunk from the least pressure upon it; complaining of impeded respiration, followed by pain. Its pulsations were synchronous with those of the heart, and decidedly aneurismal.

"After fully explaining to him the nature of the disease, and its probable fatal termination, should it increase and be left to itself, I advised him to return home; to avoid all exertion; to be occasionally bled, and to confine himself principally to a vegetable diet; but should he observe the least increase, either of the tumor or any of his symptoms, to come again to me, and I would decide on the propriety of an operation.

"After that time I occasionally saw him; he seemed to understand his case fully, and was very desirous of taking his chance of the operation; but as I could not observe any material change in the disease, I recommended him to pursue the same directions, and wait patiently until it should occur.

"On the 12th of September, he again came to the city. I found the tumor above the sternum had increased to the size of a large walnut, and upon a careful application of the stethoscope, it was evidently encroaching more upon the chest. The wheezing sound (*bruit des conflats*) could be heard; the thoracic viscera were sound, the respiratory murmur being distinct throughout.

His respiration was very much impeded by speaking, walking or coughing, and almost entirely suspended by the least pressure on the tumor; the action of the right carotid was much more feeble than that of the left; no pulsation could be discovered in its branches; the right subclavian, external to the scaleni muscles, was natural, while the axillary and bronchial arte-

ries could hardly be felt; at the wrist no pulsation could be found; the pulsations of the arteries of the left side were natural. His general health was good.

"In reflecting upon this case, and comparing the relative situation of the parts, I was persuaded the aneurism was of the arteria innominata, involving the subclavian and the root of the carotid; having formed this conclusion, I considered it a proper case for the operation proposed by Brasdor, and recently so ably revived, and first successfully performed by the distinguished Mr. Wardrop, whose scientific researches and masterly views of this subject, have since been so fully confirmed by himself and others.

"I thought further delay unnecessary, and he being willing to abide by my judgment, after having stated to him the chances of the operation I resolved on its performance. From the evident interruption of the circulation in the right arm, and the apparent effort of nature to effect a spontaneous cure, I determined upon tying the carotid first, to observe the result, and afterwards to secure the subclavian, should it be required.

"On the 26th of September I operated. The artery was taken up in the usual manner; no material change was observed.

"Twenty-seventh, nine o'clock, A. M. Slept well, feels refreshed; thinks there is more room, as he expresses it, in breathing; complains of a little soreness of the tonsils in swallowing; pulse 58, regular, and tranquil; skin natural, pulsation and size of the tumor evidently diminished. Nine o'clock, P. M. Much more restless from mental alarm, pulse 68, tense. In other respects, the same as in the morning; being habituated to laudanum, was permitted to take a tea spoonful.

"Twenty-eighth, nine o'clock, A. M. Slept well after the opiate; breathes easily, and says he takes a more satisfactory breath, than he did before the operation; feels much less of the pulsation in the tumor; pulse 68, not so tense; skin natural; cough much less. Ordered a dose of calcined magnesia and epsom salts. Nine o'clock, P. M. Has passed a comfortable day. His wife who arrived from the country since the morning, expresses her surprise at the improvement in his voice and breathing; and the difference in the beating of the tumor. Pulse of the right radial artery very distinct, but intermitting once in ten to fifteen beats; in the left arm 80, coughs frequently, and expectorates freely; skin natural; tongue a little white; salts have not operated. Ordered the dose to be repeated, and if restless, after its operation, to take his usual anodyne.

"Twenty-ninth. Saluted me this morning upon entering his

room, with a full and fine voice, and said he was well enough to call on me. Salts operated freely; thinks his cough and expectoration much less. I found him lying down and breathing quietly; pulse 71, and regular. The radial artery of the right arm beating as last evening, with fewer intermissions, but of longer continuance; skin over the tumor more wrinkled; pulsation appears less, and feels weaker. Directed to continue the tea, toast, and gruel. Eight o'clock—as well as in the morning; takes a full breath without the least wheezing; pulsations in the right wrist very distinct and regular; in the left 62 in the minute. Continue the opiate.

"Thirtieth. Found him lying more recumbent than at any former period; pulse 70, and regular; right radial does not beat quite so firmly as yesterday; wound discharging a little, was dressed.

"October 3d. Says he now feels as if he would get well; cough rather more troublesome; pulse 57; pulsation of the right radial the same; his bowels not being free, directed submur. hydr. grs. viij—supertart. pot, pulv. jalapæ aa ʒj. M. Evening, medicine has not operated; directed a dose of sulp. magn.

"Third. Cough and bronchial effusion very much diminished by the operation of the cathartic; pulse 68.

"Fourth. Feels very well; passed a good night; all his symptoms improved; pulse 74; can bear any degree of pressure upon the tumor without the least pain or difficulty of breathing.

"Tenth. Continues to mend, and is sanguine as to his recovery; pulsation of the tumor hardly perceptible, and to the touch very much diminished; cough less troublesome; left pulse 66; right very feeble.

"Tenth. Ligature separated came away last night; the tumor above the sternum, and pulsation entirely disappeared; cough and breathing better; voice nearly natural; pulse 66; now and then a very faint pulsation of the right radial artery; right hand a little swelled, and feels numb, and complains of want of power to close it.

"Twenty-second. Wound just healed; weakness of the arm very considerable; no pulse in the right radial artery; breathing very easy; cough and expectoration much less; can sleep easy in any position, which he has not been able to do for many months. Twenty-sixth. Left town this morning for his residence in New Jersey."

N. B. It is with extreme regret, that we observe so obstinate an adherence to the common ligature, to the exclusion of the animal ligature, which is, so far preferable. The superiority of the latter, has been ac-



known by several of the greatest men in our ranks, such as Physick, A. Cooper, and some others of considerable distinction in Europe.

We have taken much pains to test its properties, and we have fairly and honestly published our experience from time to time. So far as we are capable of forming a judgment, after having used both kinds of ligatures extensively, we unhesitatingly say, that the omission to test this expedient, by actual observation, is among the most extraordinary instances of a pertinacious adherence to an inferior article, that can be found on surgical record.

We have seen men in all ages, of unquestionable talents, who have stood aloof, or have warmly opposed improvements which were as obvious as the light of day. The medical world seems to be made up of contrast—every energy of the mind, and every nerve of the body, have been put under heavy pressure, to produce something new; and, yet, strange to tell, amid all this zeal and striving for innovation; and notwithstanding that matters of speculation, sometimes of mere experiment, have been received with avidity; still, men of superior discernment are sometimes seen to remain ignorant of the advantages of the most obvious practical improvement—nay, more, they set their faces against some of the most important improvements, and remain as regardless of the sufferings of their patients, under old methods, as though it was no part of their duty to investigate, whatever comes well recommended, as matter of improvement.

We have already expressed our satisfaction at the success of doctor Mott in his operation, but our satisfaction is much lessened at the fact, that he could not divest himself of prejudice and test the buckskin ligature of a "buckskin" surgeon (Physick.)

Whatever others may choose to think of this matter, we feel the clearest conviction, that, both doctor Mott, and doctor Graeffe, lost their patients upon whom they operated for aneurism of the *innominata*, in consequence of using improper ligatures.

But as well may you expect the bird tribes to change the form of their nests, as to expect prejudiced men to change their minds; or, rather, prevail with them to leave their minds open for conviction. We do not mean to make any special application of these sentiments, we write upon principle, but if they fall upon those we esteem it is not our fault. If we are wrong, our sentiments will fit no one; if we are right, as we most sincerely believe, let those who read this, reflect whether they have impartially tested this matter—surely, they will admit that it is their duty to do so.

Let us turn our attention for one moment to the details of the case of doctor Mott. The operation was performed on the 26th September; on the 16th of the succeeding month, the "ligature came away," that is, twenty days after the operation. We will only say, here, that if we did not heal such a wound in less time than this, we should not think all right. It ought to have been healed in less than two weeks, and in many persons, such a wound will heal in less than a week; by using the animal ligature, to an artery of the size of the carotid. Is it nothing to save the patient from this protracted suppuration, and risk arising from cutting the artery off by a string. It is true, we generally succeed with a common ligature—but who has not heard of fearful secondary hemorrhages—never however, where the animal ligature was used.

ART. XI. *A case of Diffused Aneurism at the bend of the arm, produced by puncture with a lancet in bleeding, in which a successful operation was performed.* By HORATIO G. JAMESON, M. D.

**MR. Mc**— a healthy young man of good habits, was bled in the vena mediana basilica; on account of some slight indisposition. Nothing remarkable occurred at the time of venesection as far as we could ascertain, but pretty soon afterwards a tumor was observed to form under the cicatrice of the operation. No distinct pulsation could be discovered, in consequence of which, it was supposed to be a tumor from some other cause.

The tumor gradually progressed for some months, when we were consulted—the history of the cause, together with the peculiar elastic feel of the tumor afforded sufficient evidence of its being an aneurism; and this was the opinion of doctor J. P. Mackenzie, who being consulted late in the case desired the patient to take my advice. At the time of my first examination no pulsation could be felt, but the arteries could both be felt in the wrist. The tumor at this time had attained the size of a man's fist.

Upon a second call at my office, the patient having walked briskly, so as to accelerate the pulse, I was enabled by well regulated pressure, on one side of the tumor, near its margin or edge, to feel a pulsation which though somewhat obscure, was too perceptible to admit of doubt. We had previously decided it to be aneurism, but were pleased to have it thus confirmed.

The operation was recommended, and we had no hesitation in deciding in favour of laying the sac open, for the purpose of tying the artery within the sac. As this has not been the uniform practice, we shall offer a few remarks explanatory of our reasons for preferring this mode of operation.

By turning our attention to the anatomy concerned in this operation, we find the brachial artery, in the greater part of its course less calculated to maintain the circulation, by anastomoses than almost any artery to which we usually apply the ligature.— We find in it almost no branches till we arrive at the *anastomoticus magnus*, within two or two and a half inches of the bifurcation of the brachial artery. We find this branch anastomosing freely with the reflected branches of the ulnar artery, and it is said, (we believe by Mr. John Bell,) that in several preparations made of arms, of persons who had died after the

cure of aneurism at the cubit, that, this was found to be the new channel of the blood conveyed to the forearm.

We have been in some degree influenced in making up our opinion on this subject, by knowing the unhappy result of a case in which the brachial artery was tied, for a small aneurismal varix by Mr. Pattison, formerly of this city. We do not know the precise spot at which the artery was tied, but we understood it was somewhere near the middle of the arm. Be this as it may, we are well assured that where the *tumor* has attained the size of that in the case of our patient, we could not have cut down with any certainty of getting below the *anastomoticus*, without getting into contact with the tumor.

In short, owing to the peculiar situation of the arteries of the arm and the facility of getting at the artery at the bend of the arm, by cutting open the sac, we have no hesitation in saying, we believe this to be the better operation; and that there will always be some risk of failure of the necessary circulation in the forearm, where we tie above the *anastomoticus magnus*.

This being our opinion on this subject, we operated by laying open the sac, from one side to the other, in the course of the artery. Matters being properly arranged, we proceeded in the following manner, in the presence of doctors Wm. H. Clendinen, Bain, Annan, Mackenzie, and perhaps others not recollected.

There being no pulsation in the tumor it possibly might not be aneurismal. We, therefore, preferred puncturing the tumor with the bleeding lancet; this gave decided proof of the true nature of the case. A director being introduced we run a button pointed bistoury along its groove so as to lay open the entire sac. A tourniquet having been previously applied to the brachial artery, we had time to turn out the coagulum which filled the sac without being interrupted by hemorrhage.

This done, we observed the artery stripped on its upper side, forming a part of the *flooring* of the sac. The vascular connection having been much disturbed, we did not think proper to trust the artery thus enfeebled in its vascular supplies, lest it might be involved in the suppuration which must take place in the sac. We, therefore, applied an animal ligature to the artery at both sides of the sac, about two inches apart. The tourniquet being loosened, the blood spirted freely through the puncture in the artery, the puncture was a small one, and had assumed, by its lips parting, some resemblance to a button hole, though much smaller, so small indeed, as just to admit a small probe.

This hemorrhage could only be ascribed to some branch of an artery being rooted in the radial, between the two ligatures.

Upon examining by a little elevation of the artery, I discovered a considerable artery entering the main trunk near the puncture. This was tied, and the hemorrhage ceased. Had we not found this branch readily, it was our intention to tie a small animal ligature on either side, and quite near the puncture.

This case presents some peculiarities which we shall briefly notice. It seems, there was never any marked pulsation in the tumor—this was owing to the very small size of the puncture, and to the circumstance of the extravasated blood being cut off from the circulation, so soon as it escaped from the artery; there being no *inlet*, the blood of necessity coagulated in the sac.

Notwithstanding this state of things, there was not the least appearance of healing in the artery; the lips of the little wound in it had receded so far, that there was no possibility of its healing. The case shews that where ligatures are applied at some distance apart, we should be well satisfied that there is no branches rooted in the trunk between the ligatures.

Had the patient been faint, or the circulation particularly languid at the close of the operation, the bleeding might not have taken place till some hours after the patient was put to bed, and then led to alarm and trouble.

Having thus completed the operation, the divided parts were laid in place, and secured by adhesive plasters. The arm was carefully lapped in flannel—the patient, however, was not sensible of any diminution of warmth in the affected arm, nor was there any numbness, although, I could not feel any pulsation in the ulnar or radial arteries. In two or three days the ulnar artery beat distinctly, and in about a week the patient insisted that he could feel the radial pulse, though we could not.

It may be worth recollecting *particularly*, in this case, that there was aneurism without pulsation. We have mentioned that there was an obscure pulsation at one time; this must have been the vibrations of the artery through the coagulated blood, which presented the peculiarity of being more fluid than ordinary, though of a very dark colour.

We do not recollect ever to have seen the circulation so well maintained, in an aneurismal limb, this we believe was owing to the anastomosing between the *anastomoticus* and ulnar arteries.

**ART. XI. *Cases of Necrosis, attended with some peculiarities.***  
 By HORATIO G. JAMESON, M. D.

**CASE 1.** Some years since we were requested, by our friend doctor M. Diffenderffer, to visit with him, a coloured boy in the family of a gentleman in this city. He had long been the victim of deplorable scrofula, having lost the power either to walk or stand.

Having all the characteristics of an incurable invalid, we were called in more especially on account of a very extensive ulcer of the leg, attended with much pain and constitutional irritation, as evinced by hectic fever, emaciation, &c. The discharge from the ulcer was copious and ill conditioned.

We do not now recollect the minutæ of the case; neither would it be in any degree interesting or useful to enter into a detail of the treatment. Our object in reporting the case is principally with a view of pointing out what we deem a singular phenomenon connected with the case.

Discovering after some dressings that there was a large piece of bone loose, which presented the appearances of a sequestrum, as the result of necrosis of the tibia, we from time to time tried to ascertain its situation, extent, &c. Finding it very loose, but apparently not likely, from its large size and slow progress to come away soon, we deemed proper to lay open the part; expose the bone, as far as involved in the disease; and afterwards proceed as circumstances might suggest. We were sustained and aided by our friend doctor Diffenderffer in the operation.

Upon running a button pointed bistoury along the denuded tibia, as far as the integument was detached from the bone, we found we had made an incision five or six inches in length. A portion of the entire body of the tibia in its shaft, about five inches in length was carious, without attachments, and quite loose, except at the ends, where, it seemed to be braced down by the sound bone. A small trephine was applied to the upper end of the sequestrum; for, notwithstanding its great size, it proved to be such a production. This end loosened, the dead bone was raised from its bed, leaving a frightful sulcus more than three-fourths of an inch deep, and about five inches long. Upon examining this cavity, I found it to be a bony trough, formed of a new and healthy bone, presenting two pretty sharp edges anteriorly, over which the integument was laid, after filling the cavity with lint.

Nothing very remarkable occurred in the after treatment. The sore was filled at suitable intervals with lint; the surface gradually granulated, and, indeed, the bony *case*, which enclosed two-thirds of the back part of the old tibia was in a state of granulation before the operation. The parts healed slowly, and we believe eventually the limb became sound. On this point we may not be altogether correct; we left the patient improving; whether any untoward occurrence succeeded we do not know. That he ever recovered his health and the use of his limbs, is more than could have been expected.

In addition to the peculiarity of the formation of a bony trough around the tibia, there is a point to notice in this case, which we deem in some degree interesting. The tibia was not only dead throughout five or six inches of its more dense part, but the cancelli of the internal part of the bone, and a portion of the body of the bone on the posterior side, were removed by caries.

This state of things, we think, clearly shows that this was a case where the morbid action, leading to necrosis, was seated in the internal vessels and membranes of the bone, and not in the periosteum—and it shows that whatever may have been said with a view to distinguish necrosis from caries; and however well these affections may sometimes be characterized; still, they are not only sometimes obscure in their diagnostic signs, but sometimes blended, as was the case in the subject before us. This not only suggests the propriety of circumspection in our treatment of those diseases, but that we must be guarded in our prognosis.

CASE 2. A young man of genteel appearance, a resident of Alexandria, made application to us about two years since, on account of a painful and obstinate ulcer, situated in the region of the left clavicle, nearer to the sternal than the acromial end. It had long resisted the remedies directed from time to time, by his family physician. Eventually, he was advised to come to Baltimore with a view of placing himself under my care, and obtaining such surgical attention as might be deemed necessary.

Upon introducing a probe into the ulcer it readily passed in deep, and could be run along in the course of the clavicle. It was also ascertained by this examination that there was a considerable piece of bone diseased and loose.

Being satisfied that this was a case of necrosis of the clavicle, however rare that disease may be, I at once resolved on the removal of the sequestrum. For this purpose an incision was made along the course of the clavicle, about one-third of its length,

commencing near the sternum, and carrying it down to the bone. The bone was found quite loose, being merely detained by the asperities on the bone sticking in the flesh or granulations around. This rendered the raising up of the bone from its bed very painful, but by a little cautious, and gentle manœuvering, we succeeded in drawing out the sequestrum.

Upon examining the part after its removal, we discovered the bony trough, similar to that noticed in *case first*. The wound granulated kindly—indeed, granulations had commenced, and these having risen around the bone formed a considerable part of the obstacle to an easy removal of it.

Not being fully aware of the nature of the case we proceeded, in some part of our operation, with a good deal of caution, and not without apprehensions, that, some injury might be done to the subclavian vein. But it turned out that, as matters stood, there being a sufficient bony structure interposed, in which the sequestrum, formed of the entire body of the bone, and involving not less than two inches of it, we did not run any material risk of doing injury to the vessels below the bone.

We think there is the same reason for believing, that in this case, as in the *first*, that the diseased action commenced within the bone, and not in the periosteum. The bone was much wasted by caries, while the new bony trough was forming, and closely embracing the old bone, on its under or posterior two-thirds.

We had a striking illustration in this case of what is, perhaps, generally admitted, that the sequestra in cases of necrosis, *may be left too long*. Where the sequestrum is so large as in the cases under notice, it is not to be expected that it will find its way out without extreme suffering, and much delay.

The evidence of this fact is that of flaccid granulations arising around the old bone, and we are apprehensive that in some cases, the too long detention of the sequestrum may lead to the absorption of the new bone. But certain it is, that, when the new bone is formed and the old one loosened we should remove the latter. Our friend doctor Annan assisted us in this operation.

**ATR. XII. Case of Lithotomy after the operation for Fistula ani with observations.** By HORATIO G. JAMESON, M. D.

This case is reported from the Glasgow Royal Infirmary, and published in Johnson's Journal, for October, 1829.

**"JAMES** Hardie, æt. 37, admitted March 11, 1829, with a desire to make water, which was passed with much pain along the course of the urethra and neck of the bladder, especially when the last drops were voided—urine sometimes bloody, especially after exercise or the introduction of instruments into the bladder, but without any mucus or sandy deposit. A full sized sound passed readily into the bladder, where it struck on a smooth hard substance, which was always found lying on the right side, and could not be felt by the finger passed into the rectum; the prostrate gland was natural. Extending from the anus forwards, and towards the left side, occupying part of the incision made in the lateral operation of lithotomy, was the cicatrice of an operation for fustula in ano, performed some years previously. The symptoms of stone commenced about sixteen years before his admission, but had never been urgent, till within the preceding fortnight, when they followed as he imagined, the use of carbonate of soda internally.

"A few days after admission, the lateral operation was performed, a straight probe-pointed bistoury passed along a curved staff, grooved on its convex side. A little more than the usual time was spent in cutting the urethra in consequence of the hardness of the cicatrice mentioned, but the stone being extracted on the first introduction of the forceps, the whole operation was finished in six minutes. The calculus weighed about two ounces and a half, and was composed of the phosphate of ammonia and magnesia. During the first days, no bad symptoms occurred. About the fifth day the wound began to look foul, and on the eighth day some flatus and a little feculent matter were observed to escape from it. On examination with the finger, it was found that the *old cicatrice had ulcerated*, producing a small aperture betwixt the wound and the rectum, immediately above the sphincter. A bistoury was passed through the opening, and carried downwards so as to divide the sphincter. An elastic catheter in the urethra, and stimulant dressings were applied to the wound. Healthy granulations soon made their appearance, and at the end of seven weeks the cicatrization was complete, but a small opening into the urethra still remained, through which the greater part of the urine was discharged. On his return to the hospital,



as directed, at the end of three months after the operation, the opening into the urethra had contracted so much, that no urine escaped by it, if he kept his thighs together during micturition, and even when he did not observe this precaution, the escape was trifling. It was proposed to *apply the actual cautery* for the purpose of closing the fistulous opening, but the inconvenience he suffered was so trifling that he declined to submit."

We have no disposition to be hypercritical, but we are so sensible of the necessity for precision in the operation of lithotomy, that we feel it a duty to examine with some exactitude into some of the more material points of the foregoing case.

We have seen that "a full sized sound passed readily into the bladder." And it is also stated that "a little more than the usual time was spent in cutting into the bladder in consequence of the cicatrice."

Have we not a right to infer from the facility with which the sound passed into the bladder that, there was no induration of the urethral tube—why then, was the operator longer than usual in *cutting into the urethra*? We should be inclined to believe that the difficulty was owing to cutting too low down upon the rectum.

All the books, so far as we recollect, in recommending the lateral operation, advise free external incisions, with a view, it is said by some, not only of facilitating the extraction of the stone, but, also, with a view of forming a free and dependent opening for the urine; and thus prevent infiltration of urine into the pelvis. It is said that our incision should commence a little anterior to the *bulb*, and be carried to the tuber of the ischium, thus making the greater part of the incision posterior to the anus.

We have long ceased to follow this rule; there is ample space between a point about an inch in advance of the bulb, and the centre of the anus, to make an incision in an adult sufficiently large to extract any stone, which it would be proper to bring entire from any wound which it would be safe to make in the neck of the bladder. The smaller the external wound, the better, provided we have free room for the forceps, and for the escape of any stone which is not too large to extract entire.

We do not mean to discuss the merits of the several lithotomic operations at this time—we merely notice this prevailing practice, with a view of expressing our belief that, it is by cutting too far back, and consequently too near the rectum, that this bowel is sometimes wounded in the operation of lithotomy.

We will not charge the operator in this instance, with having cut the rectum, we think, however, it is very probable; but if this was not done, we can hardly doubt of his having cut too near it. May we not reasonably suppose, that, by getting close down upon this old cicatrice connected with the rectum, we should increase the risk of inducing high inflammation, and thus augment the chances of breaking up the cicatrice—whereas by stopping our incision opposite the centre of the anus, and thus leaving the cicatrice untouched, we might have avoided the evil.

These remarks are not offered as matter of speculation, we mean as respects the cutting no further back than the point we have named. We offer it as matter of fact, founded on ample experience. We have performed the operation in this way for several years, by which, we avoid cutting into that deeply imbedded, fatty structure, situated between the anus and the tuber ischii. This should never be touched with the knife, except perhaps, at its upper edge.

A wound about two and a half inches, is amply sufficient—should not be deepened unnecessarily along the rectum; no advantage can result from this practice. Through such an incision we can readily cut the levator ani, introduce the knife behind the bulb, and, in short, complete all the manœuvres essential to the operation. In a word, if the operator, in the case before us, had not cut too far back, his patient would have fared better. To effect a cure by the first intention, the rule or mode which we have recommended must be observed.

It is said that, some days after the operation “the old cicatrice had ulcerated, producing a small aperture between the wound and the rectum.” The sphincter was *divided with a bistoury*. We think this, in an especial manner, shows the good sense and skill of the surgeon. This should be carefully borne in mind by every young surgeon—and should he be so unfortunate as to wound the rectum, in operating for stone, he should immediately divide the sphincter ani. This will afford the patient the best possible chance of escaping from a fistulus affection of the urethra; we have seen a deplorable case of this kind, where this was not done, and the consequences were truly lamentable.

An elastic catheter was “put into the urethra.” We are much pleased with this measure also, but it is a singular fact that no one, so far as our recollection serves us, has ever used the flexible tube in the operation of lithotomy, so as to render it particularly useful—often, I have no doubt, it will do harm where it is not properly managed.

It is our intention to be as brief as possible in our review of this case; we shall take some future occasion to dwell more at length on the operation of lithotomy. Let it suffice to say here, that, if a tube be not made to act as a syphon, and thus keep the bladder constantly empty, it would be better not to use it all.

If the bladder is suffered to fill with urine, while there is a tube in it, so soon as the patient has occasion to void his urine, the bladder will act too forcibly for the tube, and the urine will be driven through the wound; but keep it well in the bladder; keep the bladder in a state of corrugation and quiescence, and your patient will know nothing of the necessity of micturition; will have no urine to fall upon his wound; and, if the tube is kept in order, his wound will heal in a few days, by the first intention.

By way of illustration of the advantages of the tube, and with a view of pointing out some defects in the treatment of our Glasgow patient, I shall briefly detail a case, so far as it has a bearing on the point in view.

We operated upon a very respectable member of our profession, from the state of Virginia, in 1827. We extracted through the wound we usually make, a stone about the size of a very large nipple glass—being circular, but flat shaped; a good deal like the nipple glass, but thicker. A shape so unfavorable, induced us at once to break the stone—this done, the fragments were removed in a few minutes, by means of the forceps, scoops, and the syringe.

A tube was introduced and left in the bladder as usual after our operation for stone. The patient got on very well four or five days, there being no uneasiness, nor any leakage whatever through the wound; at the end of the fourth or fifth day, we believed the wound to be pretty well healed, being free from pain, swelling or inflammation. The patient was an invalid from disease of the spine, and could not lie comfortably on his side, which is essential, that the outer end of the tube may be kept lower than that within the bladder, so that the water shall pass off guttatum.

The patient became impatient, and, begged for permission to lie upon

his back—this on account of his not being able to lie comfortably on his side, was granted occasionally during the day, suffering him to turn on his back for half an hour, and sometimes longer, when he was again turned on his side, and the water suffered to run out of the tube, before the bladder acted.

He became anxious to sleep on his back, and assured me his sleep was habitually so imperfect, and his kind relatives, who were with him, were so vigilant, that he could certainly turn every hour. Under such assurances, he was indulged. It turned out that he slept soundly, and his attendants who for many long months had never left him an hour alone, happened to fall asleep. The patient slept two hours, awoke with desire to pass water—the bladder contracted spasmodically, and the tube not affording a sufficient outlet, under such circumstances, forced the water through the wound.

The escape of the water in this way was no doubt facilitated by the languid and feeble state of the parts involved in the wound. Had there been more vigor of action, the union would have been too firm in this time to have been forced by the action of the bladder—the water under more favourable circumstances would have passed along the outside of the tube, in the course of the urethra, as we have sometimes seen.

The parts were well cleansed from the urine, and the lips of the wound, which did not now exceed three fourths of an inch in length, being pressed together gently with the thumb and forefinger, a small concave oblong pad was put on, and bound on pretty firmly, by tapes passing up before and behind, to be fastened to a bandage around the body. This pad had the effect of holding the lips of the wound together, and of pressing the perineal wall against the tube, with the view of preventing the escape of urine, should any pass along the urethra. The tube being now replaced, and kept running, the wound soon healed up, without the employment of any other measures for that purpose.

Here was a case threatening in a high degree a fistulous opening in the perineum; but this unpleasant occurrence was prevented by the simple contrivance we have mentioned, aided by the precaution of not letting the bladder fill with water.

There is one other point in the Glasgow case which we deem too important to leave unnoticed. We are told that the circumstance of a fistula in perineo was deemed too trifling to induce the patient to submit to treatment; that the patient refused to submit to the use of the "actual cautery" for its cure. We may ask here, is it likely that any man would consider this affection a trifling affair? When we reflect on the various uses which are made of the parts in view, the inconvenience of voiding the urine through the perineum, to those who wear pantaloons, it does not seem probable that any man would consider a fistula in perineo a trifle. But let us contrast all this with the remedy suggested—a hot iron, the smart of which could be fully anticipated, while it would seem odd enough to an ignorant man how they would mend the leakage of his urethra by burning the parts was not likely to be acceptable.

We would ask, was this not one of the 'wonders of the world, that no method short of actual fire could be applied to the case? For ourselves we have no hesitation in saying, that we should under similar circumstances have acted as did this poor man; since we would have had no faith in the remedy.

Had they put this patient to bed two or three weeks, with a tube in the bladder, so managed as to have kept the water from accumulating; and then confined the opening by means of a concave pad, the fistula would

have healed. If it had not, then it would have been necessary to pare the edges, introduce a suture or two, still aiding these by means of the flexible tube used as a syphon, and it would have healed as we have often seen such fistulæ do.

ART. XIII. *Observations on Female Diseases.* By MARSHALL HALL, M. D. and ROBERT GOOCH, M. D.

THE following observations have been copied from the *Medico-Chirurgical Review* of doctor Johnson. To the man of refinement of feeling, every thing bearing the appearance of concern for the health and welfare of the female part of our race, must be sufficiently interesting to excite his particular attention. This remark no where applies with greater force than to women in the parturient state.

In the present instance, there is, however, superadded to this common interest for our mothers, wives, sisters and daughters, a circumstance of the highest importance, to the health and safety of womankind. We allude to the late astonishingly unsettled state of the treatment of puerperal fever. Some practitioners treating it with turpentine, and the more active stimulants; while, others resort to free depletion.

We may without the risk of egotism assert, that we do not recognize any thing new in the theory, observations, or practice of the highly respectable physicians whose names head this article. That they represent puerperal fever in its true character, we have long believed from our own observation, and many of the American physicians predicate their practice upon the presumption, that this disease sometimes requires free depletion, sometimes more moderate; and in others again, quite an opposite method.

But we are pleased to corroborate this view, by the opinions of men whose experience and professional discernment, stand so pre-eminently conspicuous, as those of Hall and Gooch. Besides, it must be admitted, that very few, indeed, of *our* physicians can have equal opportunity for observation. But we shall let their observations speak for themselves.

It may be necessary to inform our readers, that the article as quoted, is a review by doctor Johnson of the treatises of doctors Hall and Gooch. The text will be known from the commentaries, by the former being embraced within quotation marks.

The appearance of doctor Gooch's work reminded us of a promise made in October, 1827, and not yet fulfilled. We then reviewed the *first* part of doctor Hall's book, and announced our intention of dedicating an article to the second part. We are not sorry that some delay has taken place, as it will enable us not only to exhibit a careful analysis, but to institute a parallel between the works of two highly talented physicians.

In deference to seniority, and because it will best suit our plan, we shall commence this article with the second part of

doctor Hall's book. We may premise, however, that doctor Hall's observations relate to those puerperal diseases which are *sporadic*:—those of doctor Gooch, chiefly to the epidemic form of these diseases; except indeed what relates to the subject of puerperal insanity. This is the *first* distinction to be made in the investigation of the class of puerperal diseases; for however similar these two parts of the class may be, they are so greatly modified as to be of a very different prognosis, the sporadic, being far less fatal than the epidemic.

Doctor Hall first treats of puerperal diseases in general, tracing their various causes, and the various co-operation of those causes in their production.

Puerperal diseases “may be divided into those which occur in the earlier and in the latter periods of pregnancy,—immediately before, and after, and during the act of parturition,—during what is termed the puerperal state,—and during the period of lactation.”

In the early period of pregnancy many organs suffer, in consequence of the source of irritation then set up in the system. In the latter periods, general causes combine their influences to endanger the state of the brain; these are chiefly uterine and intestinal irritation, concurring with the actual pressure of the gravid uterus upon the various viscera and vessels situated behind it, and the state of plethora of the vascular system occasioned by this pressure. During parturition the contractile efforts of the uterus and of the abdominal muscles, add another source of danger to those already mentioned. Several sources of danger are removed when delivery has taken place; and yet this is not always sufficient to protect the patient from an attack of convulsion. Such an attack may occur after delivery, or even although the system be in a state of exhaustion from hemorrhage, a state which is not incompatible with congestion of the brain. This last point is particularly insisted upon by our author, and so it is, as we shall have to state presently, by doctor Gooch. Immediately after delivery the emptied condition of the uterus and abdomen may co-operate with loss of blood in inducing a state of inanition or exhaustion. To these sources of puerperal diseases, obtaining immediately after delivery, must also be added another not less important, viz. the effects of protracted suffering, of violent pain, of mental alarm, and of the “shock” of parturition. The next series of morbid affections are those more generally esteemed puerperal, and do not occur until some hours after delivery. They are in-

testinal irritation, the effects of loss of blood, and uterine or peritoneal inflammation. There are also two sources of irritation in the condition of the mammæ and of the uterus. Doctor Hall has particularly insisted upon "mixed cases," or cases which result from the co-operation of two or more of these causes of puerperal diseases; an important point. Lastly, there are the various forms of epidemic puerperal disease. After puerperal disease, properly so called, an interesting object of inquiry presents itself in the effects of undue lactation. These are treated of at length in the third part of doctor Hall's work, though we think they had better have formed the concluding part of this. The effects of undue lactation have not been so fully discussed before; and probably doctor Hall was well fitted for treating this subject on account of his well-known attention to the effects of loss of blood, for it is only another form of exhaustion. The previous state of the health of the patient is also important to be considered in estimating the precise nature and character of puerperal disease.

From those views it is plain that there are several distinct cases of those puerperal diseases which occur sporadically. These are inflammation, intestinal irritation, and exhaustion from loss of blood; besides which, there are "mixed cases" which combine two or more of these. And all are apt to be further modified by the circumstances of uterine or mammary irritation. It is equally obvious that the treatment of different puerperal cases must be very different, and that, in those which prove fatal, the morbid appearances must not only be very different; but in some absent altogether. If, as we suspect, under the common designation of puerperal fever, all these various forms of disease have frequently been comprehended, we cannot feel surprised that discrepancy of opinion in regard to their treatments should have so long prevailed.

The first part of doctor Gooch's work treats of *epidemic* puerperal diseases. It is well known how completely and how dreadfully the character of these affections is modified by this circumstance of their epidemic prevalency. Yet it is singular that very similar differences obtain in the epidemic and in the sporadic forms:—some recover under the prompt and efficient use of the lancet; others do not bear bloodletting;—some present all the traces of inflammatory action, on inspection after death; others leave no morbid appearances; as might be expected, the most successful modes of treatment are equally dissimilar. These points are alike insisted upon by both the authors before

us; as one treats of the sporadic and the other of the epidemic disease.

In the sporadic puerperal peritonitis the pathognomonic symptom is tenderness of the abdomen, increased, or perhaps only discovered on pressure; this pain, besides varying in degree, may be partial or general. There is frequently rigor, but not always, and perhaps not of the severest kind; the skin is not always hot, nor the pulse extremely frequent; there is not necessarily pain of the head. The chief object of attention is the state of the abdomen. The patient does not easily faint if placed upright and bled. The disease either subsides or passes into the sinking state.

This affection is too well known to need to be exemplified, in this place, by cases.

In intestinal irritation there may be equal, nay, severer pain and tenderness of the abdomen; severer rigor, greater heat of the surface; and more intense pain, perhaps with throbbing of the head, and even intolerance of light and noise. This disease is, indeed, frequently marked by more urgent symptoms than inflammation. There is greater susceptibility to fainting on taking blood: the stomach or the bowels are more obviously disordered; and the symptoms are relieved by emetic, aperient, and opiate remedies. Dr. Hall observes, in regard to this disease:

"I have scarcely had an opportunity of examining the state of internal organs after death; for in general the patients affected by intestinal irritation have recovered. But I have no doubt that such an examination would illustrate the following important remark of the late Dr. Denman:—'We have been told, that in the dissection of some who are said to have died of puerperal fever, no appearances of inflammation had been discovered; but I should suspect that in such cases, important appearances had been overlooked, or that errors had been committed as to the nature of the disease, and probably in its treatment.'

"A due consideration of the effects of intestinal irritation will also serve to elucidate other cases of morbid affection, in which the appearances of inflammation were looked for on dissection, but were not found. This observation applies particularly to affections of the head, heart and abdomen.

"In several cases of this morbid affection, which I had the opportunity of examining many years ago, no morbid appearances were to be found on the most careful inspection."

This subject is illustrated by numerous cases. Of these, some plainly depended upon the indigestible substances taken; in others, upon the state of the bowels; in the former case the head

is chiefly affected, in the latter, both the head and the abdomen, together or separately, but chiefly the latter. We shall select a case or two in illustration.

"Mrs. —, aged 35, continued well for several days after delivery, until she partook of some ham; she soon began to complain of pain of the head, and vertigo; on going to bed the pain and vertigo increased; and she became affected with rambling and starting, with great intolerance of light, so that she complained bitterly on a candle being brought into the room, and with equal intolerance of noise and disturbance. The pain of the head occupied the occiput principally; there was also pain in the region of the stomach, and generally soreness over the abdomen.

"The intelligent surgeon who attended this patient prescribed a purgative enema, followed by a pill consisting of five grains of calomel and one of opium, and an active purgative mixture, —and directed the feet to be fomented. The following morning every symptom had disappeared. The patient reported that the action of the purgative and the fomentation had promptly relieved her. She added an expression of surprise at having obtained such immediate relief, having on a former occasion experienced a similar attack and been bled to no purpose, as she had continued to suffer for many days.

"The following case, which I extract from the interesting paper of Dr. John Clarke,\* to which I have already referred, p. 163, is still more extraordinary.

"Mrs. T. came to London for the express purpose of lying-in. She was a healthy woman, the mother of several children, and had always passed through the period of her confinement without any unfavourable complaints.

"For the purpose of her confinement, she resided in a furnished house, where two streets crossed each other, and there was a mews at the back of the house. Here she lived for three weeks before her labor. She had a very natural delivery, and slept well afterwards. By the end of 10 or 12 days, she was well and free from any disorder.

"In the course of one night she was seized with a severe pain in her head, attended with considerable impatience of light. These symptoms became more violent towards the morning, so as to excite great alarm in her husband, who immediately came to the writer. On learning that she had been well on the preceding day, he asked if she could attribute the pain to any cause. She replied that she knew of none, unless that, from

\* "Transactions of the College of Physicians, vol. v. pp. 125, 126."



the situation of the house, she heard every carriage which passed the streets, and every carriage which entered or left the mews. But as she had been in the house five weeks without having found any inconvenience from it before, this did not appear a probable way of accounting for it.\*

"Every inquiry respecting her diet was made, and it appeared that she had eaten nothing but the most simple food.—The writer, upon receiving this information, observed that he was glad that she had eaten no oysters. To this observation she replied, that she had, two days preceding the attack, eaten oyster-sauce to some boiled chicken, but she could not comprehend how that could produce such a violent pain in the head: and she appeared anxious to know, whence the satisfactory conclusion was drawn from her having before said, that she had eaten nothing but simple food, having forgotten the oysters, of which she had swallowed about a dozen. An answer to her inquiry on this head was avoided."

"I would earnestly recommend the whole of this essay to the reader's attentive perusal. It is quite obvious that the symptoms which are detailed in it, as resulting from partaking of oysters in the puerperal state, may originate from any other equivalent source of irritation of the stomach."

We suspect that more puerperal diseases are induced by improper articles of food given or taken, than is generally supposed. We are induced to press this fact upon the attention of our readers from its exceeding importance, especially in regard to the cure. In every case of puerperal disease, the strictest and minutest inquiries should be made into the diet, and in every case, in which some improper or even doubtful article of food has been taken, a dose of ipecacuanha should be administered instantaneously. In half a dozen hours after such an indiscretion we have known patients affected with sickness, fainting, pain, headach, delirium and a pulse of 140 or 150, and life placed in the utmost jeopardy!

We now select a case or two dependent upon the state of the bowels. In such cases the abdomen is most apt to be affected, but the head may suffer from pain, throbbing, and intolerance of light and noise, and even delirium; hence the common circumstances of tied up knockers, darkened rooms, &c. and, perhaps, even the common phrase of "in the straw." The attack of puerperal affection dependent on intestinal irritation, is frequently

\* "It is plain that this circumstance was the effect, and not a cause, of the disease, and consisted in intolerance of sound so common in these cases." M. H.

induced by the action of a purge. This is a well known and important fact. And it would suggest the propriety of washing out the large intestine by a copious injection of some bland mucilaginous fluid after delivery, in preference to the too customary plan of administering a purge.

"Mrs. —, a healthy young person was confined on January the 20th, 1820. On the preceding day she had experienced inefficient wearying pain. On the morning of her confinement the pains were strong, but the os uteri was found to be rigid; she was, therefore, bled to eighteen ounces, and her labor was soon afterwards completed.

"Mrs. —, continued well until the succeeding morning, when she was affected with severe shivering, which was repeated three times, occupying about the space of three hours. The rigors were succeeded by great heat of the skin, and by great sickness, retching, and vomiting. An enema and purgative medicine were administered; much hardened feces were expelled, together with a fluid having the appearance of yolk of egg; and much relief was experienced. In the evening, and during the night, however, there was great heat of surface; there were much restlessness and constant changes of posture, and throwing the arms about and out of bed, the sleep was disturbed by startings and slight delirium; there were headach, confused vision, and much humming noise; and there was great faintishness on any attempt to assume an erect posture. She was directed to take the effervescing mixture.

"On the morning of the 22d the sickness returned, the purgative medicine had acted; there was considerable uterine discharge. A draught was given with thirty-five drops of the tinctura opii.

"I saw the patient about one o'clock: the pulse was then 144; there were headach, intolerance of light, dimness and imperfection of the vision, and great humming noise in the ears; there was some beating of the carotids visible externally; there were restlessness, changes of posture, throwing the arms out of bed, faintishness if raised to the erect position, a feeling of want of air, and relief on smelling vinegar. A draught with thirty-five drops of the tinctura opii and a dram of the spiritus ammoniæ aromaticus, was ordered to be taken immediately, and to be repeated in three hours; a lotion, consisting of a dram of sulphas zinci and a pint of water, was directed to be applied to the pubes, and within the vagina. An aperient draught was prescribed, but not given.

"In the evening the pulse was 130; there had been comforta-

ble, refreshing, and undisturbed sleep; all the symptoms were abated; the bowels had been purged; the uterine discharge was diminished. A draught with ten drops of the *tinctura opii* and half a dram of the *spiritus ammoniæ aromaticus* was prescribed to be taken every five hours; the effervescing medicine was continued; the face and hands are directed to be washed with a lotion when hotter than natural.

“Early on the morning of the 23d, there was an attack of troublesome coughing. At ten o'clock the symptoms were nearly as on the preceding evening; at night, they were still further mitigated,—the pulse being 120, the bowels open, the uterine discharge more scanty.

“On the succeeding day, Mrs. —, complained; most of the general stiffness and aching of the limbs, and the pulse was 125. The opening medicine was given, opiate draughts were again prescribed, and the lotion was omitted. In the evening Mrs. — was relieved, and the pulse was 120.

“On the next day there was little complaint; the pulse was 108, the bowels open, and the lacteal discharge natural. All these symptoms at length subsided; but soon after this time, the vein which had been pierced in the arm began to inflame, and this new, but terrible disease proceeded, in spite of every remedy, and destroyed the patient.”

We now proceed shortly to detail the characters of that puerperal case which depends principally upon the effects of the loss of blood. These seldom, rather never, exist alone. They are generally conjoined with some of the effects of intestinal irritation; and they modify almost every case of that disease; but they rarely show themselves in conjunction with inflammation.

There is seldom rigor or excessive heat; but there may be transient chills, transient flushes. The countenance and especially the prolabia are pallid. The head, the carotids, and the heart throb; there is intolerance of sound; (intolerance of light belongs rather to intestinal irritation;) there is a characteristic tendency to syncope on assuming the erect posture, and on taking blood. Sometimes the case resembles an affection of the head, sometimes disease of the heart.

Into the investigation and description of the effects of loss of blood Dr. Hall has entered fully, too fully for us to follow him here; we are compelled, therefore, to refer to his work for complete information on this very important and interesting subject. We extract the following case, which in the commencement, conjoined some effects of intestinal irritation, but afterwards consisted more purely of those of loss of blood.

*"Case. Mrs. —* aged 35, was confined on Friday the 11th of June. For several weeks previously to delivery, she had been subject to pain of the head, and of the left side, which were relieved by an attention to the state of the bowels.

*"After the expulsion of the placenta, there was considerable hæmorrhagy, which induced great exhaustion; two doses of forty drops of tinctura opii were given within two hours, with the effect of producing sleep. The flow of milk commenced on the same day, and was very copious.*

*"About three hours after delivery, Mrs. — was seized with a violent pain of the crown of the head, confined to a space which could be covered by the hand; the pulse was 80 only; there was much thirst; the tongue was little affected; the skin was natural. This pain was relieved by the cold lotion, and opening medicines, and Mrs. — continued better during ten days.*

*"On the night of Monday, June the 21st, Mrs. — was taken about 12 o'clock, with severe shivering, which was succeeded by intense heat and dryness of the skin, great pain of the head, and intolerance of light and noise. At ten o'clock on the succeeding morning, these symptoms still continued; the pulse was from 120 to 130, and sharp; the pain of the head was throbbing, and the head felt as if bound tight; the tongue was parched. Ten ounces of blood were taken from the arm, which produced temporary faintness, but some relief; the cold lotion was applied to the temples. At seven o'clock in the evening, the pain of the head was as severe as ever, especially if the lotion were not constantly applied; the pulse was 120; the tongue not so dry; the blood already drawn was buffy. Twelve ounces of blood were taken from the arm. This was followed by great faintness, and gasping breathing—to such a degree indeed, as to lead to the apprehension of dissolution. On recovery, the pain, and intolerance of light and sound remained as before; the pulse rose to 130. Leeches were applied to the temples and the cold lotion over the head; two grains of calomel were ordered to be taken every two hours; an opening mixture and an enema were prescribed.*

*"At four o'clock of the morning of Wednesday the 23d, the symptoms continued with little change; the pulse was 120; there was much gaping. Six leeches were applied to the temples, a blister to the nape of the neck, and the medicines were continued.*

*"On Thursday morning, the 24th, the pulse was 100, and she appeared better, but complained of a degree of beating of the*

heart. At four in the afternoon the pulse was 120, the breathing was deep, sighing, and rare, and there was a sense of fluttering at the heart, the affection of the head still continuing.—Two grains of opium and five of calomel were ordered to be taken immediately.

“At two o'clock on Friday morning, Mrs. ——— was distressed with a feeling of hurry, of impending dissolution, and of being ‘overcome’ by sleep; the pulse was 120; and there were sighing and interrupted breathing. At eleven o'clock she was more comfortable,—the pulse was 100; there was less pain of the head, and of intolerance of light and sound, less sighing, and less faintness; she had been able to sleep for ten or fifteen minutes without feeling overcome; there was some fluttering.

“From this day the amendment was progressive, though slow.

We must next present our readers with the practice to be pursued in each of these cases. This leads first to draw their attention to a plan of bloodletting, proposed by doctor Hall, with the view of determining the *quantity* of blood which may and should, be taken; and, in the second place, of determining from this the *diagnosis* of the disease. The plan is this. The patient is to be placed upright, and bled to incipient syncope. If there be inflammation, much blood will flow before syncope occurs, and much blood ought to be taken; in intestinal irritation, on the contrary, and, a fortiori, in exhaustion, the abstraction of a very little blood will induce syncope. Thus the taking too much, and too little, blood is guarded against;—and it is difficult to say which is the more fatal error of the two. No doubt this plan will admit of modifications—of exceptions. “Nulla perpetua præcepta medicina recipit.” We shall here introduce an extract or two from doctor Hall’s *methodus medendi*.

“I now proceed to state the treatment of puerperal inflammation.

“And I would observe, in the first place, that nothing can be trusted to, to save the patient, but the most ample bloodletting, and, in the second place, that nothing should preclude the use of this remedy but the actual existence of the state of sinking. In regard to the measure, and the repetition of the bloodletting, many points must be taken into consideration. The earlier, and the more fully this remedy is employed, the more efficacious and the safer it is, and the safer is its full repetition.

"There is one point which I would particularly impress upon my reader. It is, that the bloodletting should, in this disease, ever be performed, the patient being in the erect position; and it may then, in general, be safely carried to deliquium. I do not recommend this mode of proceeding with the view of producing a deliquium merely; but also, that this deliquium may serve as a guide, in judging of the extent to which we may carry the depletion. If the patient be sitting upright, and faint by the loss of blood, we have a security and remedy against any danger from this event, in laying the patient low. But if deliquium be induced by bleeding the patient in the recumbent position, I cannot say that I think it will always be without danger. I think the plan which I have proposed at once far more safe, as well as far more efficacious in subduing this disease. If it were requisite, the patient's head might be laid even lower than the rest of her body.

"The same rule may apply for the repetition of the bloodletting. If the fullest effect is desired which the patient can safely bear, let her be bled to syncope in the erect posture. She will faint from losing a larger, or a smaller quantity of blood, precisely in the inverse proportion of the previous exhaustion; the state of syncope will not only warn us to desist from drawing more blood, but will arrest the flow of blood itself, just at the point when the patient can bear to lose no more.

"This is a most important criterion for the employment of a most powerful remedy. I do not by any means wish it to be understood, that it is always safe to bleed to deliquium in the erect posture; but that, when it is determined to bleed, it is important to have the boundary, which it would be unsafe to pass, at least clearly defined. Sometimes the patient will faint on being placed merely upright; is it then, ever, and in what particular cases, safe to bleed?

"The next question is in regard to topical bloodletting. And I think there is one important rule for the adoption of this remedy. It may, of course, be enjoined to be done immediately after general bloodletting. But it is particularly useful in those cases, in which the system is obviously subdued by the general bloodletting, and yet the inflamed part remains tender under pressure. In such cases, leeches, or still better, cupping, if it be properly and tenderly performed, will prove a most useful remedy.

"It is quite unnecessary to state the utility, or rather the necessity, for the administration of purgative medicines in this dis-

case. There is good reason to suppose that some cases have been subdued even by this remedy alone. And the efficacy of purging in conjunction with bloodletting is quite undoubted. A constant catharsis should be kept up, indeed, until the disease is completely subdued."

#### INTESTINAL IRRITATION.

The treatment of this puzzling state is as follows:—

"In the treatment of the effects of intestinal irritation, I would by no means exclude the use of the lancet. Bloodletting may be useful in such a state, for the same reason that it is useful in simple fever. But I would repeat, that this remedy is only subsidiary to the full and free evacuation of the bowels, and, if necessary, of the stomach. If it were trusted to alone, or with only a moderate attention to the state of the alimentary canal, or if it were used in the manner which is required to be efficient in puerperal inflammation, I am persuaded that the patient would die of exhaustion, before the symptoms would yield.

"The remedies of intestinal irritation and its effects, I would enumerate and arrange in the following order: first, the full evacuation of the intestinal canal; secondly, bloodletting; thirdly, some kindly anodyne; fourthly, leeches, cupping, a lotion, a liniment, or a blister, according to the circumstances of the case, for the topical affection; fifthly, the mildest, nutritious food; sixthly, the most absolute quiet, and the most perfect security from light, noise, disturbance, and every other source of excitation; seventhly, every soothing plan; eighthly, great coolness, and free ventilation of the sick-room; and, lastly, a constant watching over the patient during sleep, to avoid the injurious effects of turbulent dreams on one hand, and of too long sleep and fasting on the other. Upon each of these points I proceed to make such observations as I have learnt, from practice, to be of importance.

"In regard to the state of the alimentary canal, it is quite obvious that an emetic is the proper remedy when the symptoms can be attributed to any indigestible substance taken. And I would recommend this remedy, even although it might appear, from the lapse of time, unlikely that the injurious substance should still remain in the stomach.

"When the case originates from intestinal irritation, I would earnestly recommend that the first remedy should be an enema, consisting of three or four pints of warm water, very slowly and gently forced into the bowels. This should be followed by an active purge. And this should, in due time, be followed by

a repetition of the injection. I need scarcely observe, that the evacuations should be immediately carefully examined, and the effects upon the symptoms of the disease be watched.

"To abate the general heat and excitement of the system, to relieve the head or the abdomen, and to ensure perfect safety, the patient should, in cases in which the strength is not particularly impaired, be raised into the erect posture, and be blooded until faintishness be induced. This effect also should be carefully watched and observed. If it occur from the loss of a small quantity of blood, it confirms the diagnosis; if it do not occur until much blood have flowed, it should suggest the suspicion of more than mere intestinal irritation,—of one of those mixed cases which so frequently occur, and of which I propose to treat in a subsequent chapter.

"I do not imagine that this decided use of the lancet can ever be attended with danger, if there have been no previous loss of blood, or other cause of exhaustion. But it could not be repeated with impunity. It would lead to exhaustion with the symptoms of reaction, to the state of sinking, or even to sudden dissolution. And if the case be really one of intestinal irritation, and the other remedies have been duly applied, such repetition of bloodletting will not be required.

"It is an observation of great importance, that, in inflammation, repeated bloodletting is required, and is borne with safety; in intestinal irritation, on the contrary, the repetition of bloodletting is neither necessary nor safe.

"This free evacuation of the bowels, and detraction of blood, are very apt to be followed by symptoms of hurry and alarm in the system. These effects are frequently prevented by the timely administration of an efficient and kindly anodyne; and I believe no anodyne is possessed of these qualities in a higher degree than the liquor opii sedativus of Battley. Of this excellent medicine a full dose may be given, and, if necessary, repeated in five or six hours."

We now come to the 7th chapter, on "**MIXED CASES.**"—These, according to doctor Hall, are those which are most commonly met with in practice, and he proceeds to illustrate the various combinations of inflammation with intestinal irritation—or of either or both, with the effects of loss of blood by a critique on the work of the late Mr. Hey, of Leeds, who, as well indeed as almost every other writer on this subject, appears to doctor Hall to have combined in one description, all the three different states of which he (Dr. H.) has treated. We are unable to follow doctor Hall through the critique; but we cannot



help fearing that there is but too much justice in his strictures. We have, ourselves, seen so much mischief done by mistaking irritation for inflammation, that we cannot doubt of the great extent of that mischief in former times, when bleeding was so unsparingly as well as indiscriminately employed.

We shall extract the following passage on puerperal mania.

“There is a mixed case which shows itself under a still different form from any which have hitherto been described:—it is *puerperal mania*. I believe this disease to result, in general, from all the circumstances following parturition combined; but chiefly from the united influences of intestinal irritation and loss of blood. I purpose to pursue this subject hereafter. In the mean time, however, I would observe, that I am persuaded that real puerperal phrenitis is comparatively a rare disease,—that puerperal mania is seldom of an inflammatory character, and that it is, especially, to be treated by those measures which are suited to the mixed case of intestinal irritation and exhaustion. This opinion is confirmed by the fact of mania occurring from undue lactation, as well as from the circumstances of the puerperal state. I am inclined to attribute much more to the combined influence of irritation and exhaustion, than to the mere ‘state of the sexual system which occurs after delivery,’ which has been assigned as the chief cause of this morbid affection by doctor Gooch, in a most interesting paper upon this subject, in the sixth volume of the Transactions of the College of Physicians, p. 280,—although I would by no means exclude the influence of this principle altogether. There is ample evidence, in doctor Gooch’s cases, of the influence of intestinal disorder; and the events of labour, and the circumstances of lactation, ever add to this state of exhaustion. This view is the more important, because it directly suggests the proper mode of treatment, which consists in restoring the system to a state of due health by every means in our power, whilst we adopt every measure which can soothe and allay the morbid irritability of the nervous system.

“I am confirmed in this view of the nature of puerperal mania, not only by a careful investigation of its causes, and the good effects of the remedies which I have mentioned, but by having met with the symptoms of intestinal irritation described in chapter V., as a prelude to those of mania.”

These remarks are illustrated by a very interesting case, some few particulars of which we shall lay before our readers.

A lady was confined after a very tedious and painful labour,

and continued to do well for 50 hours, when she became affected with severe pain and beating in her head, attended with intolerance of light and sound. To these symptoms succeeded delirium, with a pulse of 130 to 140, starting and alarms, frightful visions, &c. She had no rest or sleep for five days. Leeches, purgatives, and anodyne draughts did no good, and the symptoms daily increased in violence. A drachm of the tinctura opii with spir. ammoniæ aromat. was given and repeated in the night, snow being applied to the head. This induced a profound and quiet sleep, and the patient awoke free from delirium. The same medicine was exhibited the succeeding night, and from that time all the bad symptoms subsided.

The remainder of the chapter, being critical of Mr. Hey's work, we shall pass over.

In the 8th chapter, doctor Hall details some cases illustrating the fatal effects of bloodletting in puerperal affections.

"These cases illustrate several points of great practical importance: and first, the danger of the repetition of the bloodletting, in cases which have been relieved by previous remedies, as a preventive merely; in such cases, all inflammation, if it existed, having subsided, a chief source of safety in the use of the lancet, as well as of the necessity for it, is removed, and the patient will be very apt to fall a prey to the further loss of blood. This is exemplified in the first and second cases about to be adduced. In the second place, I consider the particular danger of an unguarded use of the lancet, in cases not inflammatory, to be exemplified in the third case, which was clearly one of intestinal irritation, and not of inflammation. The last case is a sad instance of an inconsiderate bloodletting, and it is to be hoped that few such examples have occurred, although, I confess, that in the prevailing mania for bloodletting, even such cases should not greatly surprise us."

We shall now endeavour to make room for one of the cases here detailed.

"Mrs. —, aged 33, weakly, was confined of her sixth child, after an easy labour, without flooding, at midnight on the 20th July, 1818. During the ensuing day all was well. The lochia were natural; there was no alvine evacuation, but the bowels had been open during pregnancy, and twice evacuated during labour.

"On the morning of the 22d, Mrs. — took half an ounce of the oleum ricini; and at four in the afternoon this medicine was repeated, the first dose having produced no effect; this, however, induced violent purging, occasioned great fatigue, and

caused the patient to complain much. At ten o'clock in the evening, Mrs. — was seized with rigor, which was violent and continued more than an hour; this was followed by great heat of skin, with wakefulness, restlessness, anxiety, sighing, and moaning.

"At ten on the succeeding morning there were great heat of skin, and pain at the bottom of the back. Four tea-cups-full of blood were taken from the arm. The symptoms still continued, and at seven in the evening, three tea-cups-full of blood, and at eleven three more, were taken from the arm, and twenty leeches were applied to the region of the uterus for the increased pain. The pain still continued to increase, with restlessness, sighing, faintishness, constant necessity for the smelling bottle, and apprehension of impending dissolution.

"Afterwards the symptoms being unabated, a physician was consulted. About three o'clock, three tea-cups-full of blood were again taken from the arm, and leeches again ordered to be applied; an enema was given, which evacuated a quantity of feces quite unexpectedly. In a short time Mrs. — became cold, and the surface clammy, with fainting, gasping, breathing, &c., and all was done to restore warmth. After an interval of three hours the pain was still great. Some opening medicine was prescribed. But the state of sinking continued,—the smelling bottle, the fan and fresh air, were urgently called for. All the symptoms, except the pain, were aggravated, there were gasping, a slight convulsive struggle, another, and the patient expired.

"In this case it will be observed, that the pain remained unabated, even after the last fatal bloodletting. I have reason to regard this, as denoting not an inflammatory origin of the pain, but the presence of morbid alvine contents."

The ninth and tenth chapters on epidemic puerperal fever, and on the effects of previous disorder on the general health, need not detain us, as they occupy only a few pages of the original work—reference being made to doctor Hall's paper in the 13th volume of the *Medico-Chirurgical Transactions*, of which we have already given an account in this Journal.

With these extracts and observations we must take leave of doctor Hall, for the present, and proceed to the work of doctor Gooch.

The first remark made by this author is one in which we fear we cannot concur, viz. that the designation of peritoneal fever is to be preferred to that of puerperal fever or puerperal peritonitis. Dr. Gooch prefers this term, because "it would express the fact, that an affection of the peritoneum is an essential ac-

companiment of the disease, without defining what the affection is, because it is not uniform." 2. But if there be sometimes traces of peritonitis on examination, and sometimes not, to which we suppose this last remark refers, should not the two cases be distinguished by a distinct nomenclature altogether?

Leaving this point, we proceed to state that this disease is remarked to be more prevalent at one period than at another—that when most prevalent, it is also most dangerous—that when thus prevalent, "it is not uncommon for the greater number of cases to occur in the practice of one man, whilst the other practitioners of the neighbourhood, who are not more skilful or more busy, meet with few or none."

Doctor Gooch observes—

"The most fatal disease to which lying-in women are subject is known under the names of Puerperal or Child-bed Fever, Puerperal Peritonitis. Its essential symptoms are pain and tenderness over the abdomen, with a rapid pulse.\* It begins a few days after delivery with pain of the abdomen, shivering succeeded by heat and a quick pulse. As the disease advances, the milk becomes suppressed, the belly tumid, and the breathing short;—when it terminates fatally, it does so commonly about the fifth day, but often in less than half that time. On opening the abdomen, the morbid appearances are not uniform, but the most common and remarkable are a copious effusion of lymph and serum on the surface and in the cavity of the peritoneum. Thus it is a fever essentially complicated, with an affection of the peritoneum."

"From the little I have already said about the symptoms of this disease, and the morbid appearances discovered after death, it is clear that it essentially consists in fever, with an inflamed state of the peritoneum; but fever may vary, not only in degree, but in kind, or (as it is commonly called) type; and inflammation may vary, not only in degree, but also in kind or type. Hence, in investigating the nature of this disease, one of the first questions is, whether it is strictly uniform, differing only in degree, in different cases, and requiring only different degrees of the same treatment; or whether it differs so much in kind or type,

\* "Doctor Lowder adopted a very good method to form an accurate definition of this disease. He read all the different authors of character who had written on the subject, and noted down all those pathognomonic symptoms which they agreed were necessary to constitute the disease, and on comparing these with his own experience he found them to be very few—fever, intense pain of the head, and intense pain of the abdomen.'"—(Lowder, MS. Lectures.)

that the mode of treatment which is necessary in some cases, is destructive in others. The latter is the conclusion to which we must inevitably come, at first sight, in tracing the history of this disease in the works of those who have written about it. This I propose to do through the last half century, not for the useless purpose of raking up old and obsolete opinions, but because it is unsafe to draw inferences, except from a wider survey of facts than the experience of a single individual, or of a single epidemic, affords."

Doctor Gooch proceeds to review the opinions of doctor But-ter, doctor John Clarke, doctor William Hunter, Richter, doctor Lowder, doctor Denman, and doctor Gordon, and concludes by the following remarks:—

"From the foregoing account of the experience and opinions of different physicians, who had opportunities of observing puerperal fever, what inferences are we to draw? Supposing that each observed accurately the disease which he witnessed, and that no mistake was made in the formation of his opinion, the inevitable conclusion is this;—that puerperal fever, by which I always mean that fever which is accompanied by an inflammatory state of the peritoneum, is not one uniform disease, but may occur under different forms,—that sometimes it is so mild as to be curable by the gentlest aperients, and at other times it is very obstinate and fatal. That in this latter form it sometimes consists of acute inflammation of the peritoneum with inflammatory fever which bears, and is curable only by early and active depletion, sometimes of inflammation and fever of a low type, in which depletion is useless, and even pernicious."

Doctor Gooch next details the experience of M. Doulcet of Paris, and doctor Böer of Vienna. Lastly, our author notices the more recent works of doctor Armstrong and Mr. Hey, and concludes with the following remarks:—

"The Treatises of doctor Armstrong and Mr. Hey produced a strong impression on the minds of medical men in this country. They convinced them that the puerperal fever which was then, and had been for several years, infesting various parts of the island, was an acute inflammation of the peritoneum, and that bleeding and purging, employed very early and very actively, was the only mode of treatment which was capable of arresting it: but the impression did not stop here; it produced a general conviction, that the present was a fair representative of all former and all future puerperal fevers; that bleeding and purging were its essential remedies in all places and seasons; that they had failed only because they had been used too late and too sparingly, and

would succeed if they were used early and actively. In short, that a light had been thrown on the nature of puerperal fever, which explained the failures of physicians in times past, and would ensure them success in times to come. Of these conclusions, as far as they relate to the disease which the writers had been witnessing and treating, I have no doubt; but as far as they relate to past and future epidemics, it may be useful to examine the reasoning which led to these conclusions, and how far they have been corroborated by subsequent experience.

"I have no doubt from the symptoms and progress of the disease which Mr. Hey witnessed at Leeds, and doctor Armstrong at Sunderland, that it was a genuine puerperal fever; that is, fever accompanied by an affection of the peritoneum, although the proof by dissection was wanting in both.\* I applaud the zeal and ability with which they investigated its nature, and conducted its treatment; but a question of great difficulty and importance still remains, namely, whether the puerperal fever, accompanied by an affection of the peritoneum, and often epidemic, does not assume different types in different seasons, being sometimes acutely inflammatory, and bearing and requiring early and active depletion; at others, characterized by debility, or what has been called action without power, in which depletion, however actively employed, is useless and pernicious."

Doctor G. observes, that there are only two sources of materials for solving this question—a comparison of past epidemics with those which fall under our own observation—and an application to future epidemics of the treatment which was found so successful in those we have witnessed. The *latter* only affords conclusive proof. When doctor Armstrong and Mr. Hey published, they were in possession only of the *former* source of information—"and they appear to me to have laid far too much stress upon it, and permitted it to lead them to far too positive conclusions." doctor Armstrong had remarked that "there is perhaps no disease more uniform than puerperal fever in the symptoms and morbid derangements which it induces." Doctor A. also quotes doctor Hulme as to the "immutability of the puerperal fever." On these passages doctor Gooch makes the following comment:—

"In the leading circumstances of the disease, there is certainly great uniformity; it almost always commences a few days after delivery, is marked by pain and tenderness of the belly, and

\* "It is to be regretted that no examination could be obtained, as morbid dissection might perhaps have thrown some additional light on the nature of the disease."—*Armstrong on Puerperal Fever*, p. 10. Mr. Hey also makes a similar complaint."

a rapid pulse; if not cured terminates fatally within a week, and after death, commonly leaves the depositions and effusions of inflammation. Thus far it is very uniform, but no further. To say nothing of its causes, there are at least three things requisite to form the history of a disease:—1st. its symptoms. 2d. The effects produced by remedies. 3d. The morbid appearances discovered after death. In the history of puerperal fever, there is, even in the first and third of these particulars, considerable difference: this is apparent even in the experience of doctor Armstrong himself, who describes the local inflammatory symptoms as being sometimes very distinct, sometimes very indistinct, and sometimes absent altogether, the patients not only complaining of no pain in the abdomen, but bearing pressure without the slightest shrinking. Compare too, the symptoms of the disease as described by doctor Gordon, of Aberdeen, and those described by doctor Clarke, of London. In the appearances discovered after death, there is also this great difference in different epidemics, that sometimes there are the effusions of inflammation, with extensive redness of the peritoneum, at other times the peritoneum is quite pale; in the sequel it will appear that there is a still greater difference in the appearances after death. But if from the symptoms and morbid appearances we pass to the second particular in the history of the disease, namely the effects of remedies (which form not only an essential, but the most important part of this history, for the two others are of no value but as they throw light on this,) there is perhaps no disease of which the histories have been so opposite. Richter could almost always cure it. Doctor William Hunter and doctor Clarke could scarcely ever cure it. In doctor Lowder's time it was observed that every woman who was blooded, died. In doctor Armstrong's time it was observed that every woman who was not blooded, died.

Throughout the whole chapter on the pathology of the disease, Dr. Armstrong appears to our author to write as if he thought that the symptoms during life and the appearances after death, were infallible guides to the nature and treatment of the disease.

"Thus, he remarks, that if a practitioner were to see a woman soon after delivery suffering pain in the abdomen, a quick pulse, and the other signs of fever, and after death were to find no other morbid appearance than extensive traces of inflammation in the abdomen, he would at once conclude that the disease was active inflammation, and would in future treat it as such; and, alluding to those writers who have considered the low epidemic fever of childbed as a different disease from peritoneal

inflammation, he says, 'it becomes a matter of great practical consequence whether symptoms and dissections justify such a distinction.' It appears to me that symptoms and dissections cannot settle the question, and that doctor Armstrong lays more stress on the argument than it will bear. Supposing many cases of a disease, which bore in general a striking resemblance to one another in the symptoms and the appearance on dissection; this would naturally suggest as a strong probability that they would all be affected in the same way by the same remedies. but suppose that on applying these remedies to all these cases, with the same activity, at the same stage of the disease, and as far as can be made out, under the same circumstances, they produced different effects on different cases, some being relieved and recovering, others being made worse and dying; this would be more conclusive evidence of a difference between these cases, than the symptoms and morbid appearances were of their identity. The effects of remedies on a disease, if accurately observed, form the most important part of its history; they are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar. How many diseases are there in which the symptoms are inadequate guides; in cases apparently syphilitic and apparently similar, some as soon as mercury affects the mouth begin to mend, and rapidly recover; in others, the ulcers begin to spread; and so imperfect are the appearances as guides, that I have known the first surgeons in the profession giving opposite opinions about the same case, and a nose lost from taking the opinion of the majority. The local pains and constitutional disturbance which occur in feeble and bloodless persons, and which are aggravated by bleeding and other evacuations, strikingly resemble the local pains and constitutional disturbance which occur in vigorous and plethoric persons, and which the lancet and other evacuations relieve and ultimately cure; yet how many years is it before the young practitioner learns that there are cases apparently so similar yet really so different, and how to distinguish them,—and how many practitioners are there who never learn it at all! Symptoms and dissections can never do more than suggest probabilities about the nature of a disease and the effects of a remedy on it. A trial of the remedies themselves is the only conclusive proof. Sydenham was so aware of this, that he says, 'Epidemic diseases may seem alike to the unwary, because in some sort they do agree to outward appearance;' adding this confession, 'when a new species of fever arose I was doubtful how to proceed, and notwithstanding the utmost caution could scarce ever preserve



one or two of the first patients from danger,' so far from infallible were symptoms as guides."

Having thus discussed the history of former epidemics and the opinions of former writers, doctor Gooch proceeds to detail his own experience. The chief results of this were, from what obtained between the years 1812 and 1820, that puerperal fever was a fever attended by acute inflammation of the peritoneum; that the inflammatory stage was often very short, soon terminating in great and irremediable effusion into the peritoneum; that the disease was curable only in the inflammatory stage by active bleeding and purging, and that, although it was impossible to draw the line, and say when the inflammatory stage terminated in that of effusion, because it differed in length in different cases, yet that it was often incredibly short, and that the treatment had not a chance of success unless begun during the early hours of the disease. These results were precisely similar to those obtained by doctor Armstrong and Mr. Hey. We do not therefore consider it necessary to detail them.

Doctor Gooch proceeds to the detail of several cases of puerperal disease which are of a very different character from those hitherto mentioned. They appear not to be inflammatory, not to bear or require bloodletting, but to yield to opiates, and to poultices to the abdomen, and, if fatal, not to leave traces of disease over the surface of the peritoneum. The first cases given are of a sporadic character. They are followed by others which appeared epidemically. We shall quote them in the order in which they presented themselves to the author, and in which he has transmitted them to us.

"For some years I supposed that the group of symptoms which indicate puerperal fever, always indicated the same disease, differing only in degree, so that if a woman a few days after delivery had diffused pain and tenderness over the abdomen, with a rapid pulse, she must necessarily have a peritoneal fever, for which the only remedy was early and active depletion. This, I know, was the common opinion of the profession, and may be the common opinion now, although some practitioners may have arrived at a different conclusion. The first case which led me to suspect that there were exceptions to this rule, and afforded me some light on this difficult and important subject, was the following:

"*Case 1.* The patient was a lady, twenty-six years of age, habitually thin, and long subject to occasional pains in the pelvis, which she called spasms of the womb, and which she relieved by opiates. She also frequently fell into a state of debility

from which she was always restored by steel medicines, or chalybeate waters. This lady was delivered of her third child, after a short, easy, and natural labour. On the second morning after her delivery being perfectly easy, and complaining of nothing, she took a purgative, as is usual, of salts and senna. It operated plentifully several times; then the stools became frequent and watery with severe griping, and gradually the abdomen became painful and tender all over; the pain was without intermission, and the tenderness so great, that she could not bear the slightest pressure; nevertheless her skin was cool, and her pulse continued soft and not more than 80. This case occurred at a time when it was the prevailing notion in the profession, that puerperal fever was invariably acute inflammation of the peritoneum, for which early, full and repeated bleedings form the essential remedy, and I found it very difficult to prevent this treatment being adopted in this case. The medical attendant of the family visited her several times a day, insisting that the pain arose from inflammation of the peritoneum, and urging the necessity of bleeding. I succeeded, however, in preventing this measure; the abdomen was kept constantly covered by a bag of scalded bran; she took ten grains of compound powder of ipecacuanha, every four hours; the pains soon diminished, and at length subsided; the tenderness remained longer, but ceased on the second day, leaving her quite free from any symptom of disease. A few days afterwards, the bowels being confined, and mild aperients not acting, she took another dose of salts and senna, which operated as the former, producing another attack of pain and tenderness of the abdomen, which was speedily relieved by fomentations and opium."

In this case, doctor G. observes, there was not much danger of going wrong—the slow pulse was a sufficient guide.

"Without stirring the question, whether the irritation excited by the purgative, had excited the symptoms which I have described, the case taught me that a lying-in woman might have a diffused and permanent pain over the abdomen with tenderness, which neither I nor the family apothecary could distinguish from the pain and tenderness of peritoneal inflammation, which nevertheless did not depend on inflammation; at least it was unaccompanied by quickness of pulse, and it was cured without depletion, by fomentations and opium. All this was new to me, and interested me much; but I had not been brooding over it long, before I met with the following still more remarkable case."

*Case 2.* This was the wife of a surgeon in the country, to whom our author was called. She had been delivered a few days, and was represented to be in great danger from peritoneal

inflammation. The following particulars were collected on doctor G's arrival.

"In her ordinary health she was pale, and subject to fits, either hysterical or epileptic; she had been confined four days, and her present symptoms had lasted rather more than one; there were permanent pain all over the abdomen, tenderness, and soreness, so that turning in bed was distressing to her; she had had no rigors nor chilliness; her pulse was 116, perfectly soft, and rather languid. One of the medical gentlemen, who had seen her at four o'clock that morning, had taken from the arm, two cups of blood; but although it had flowed in a full stream, the surface of the crassamentum was flat and red, and the bleeding had afforded her no relief. I ordered the abdomen to be covered by a linen bag stuffed with hot bread and water poultice, and I gave her twenty minims of laudanum; the poultice was to be renewed often enough to keep up heat; she was to continue the laudanum in doses of ten minims every four hours, and take nothing for diet but thin hot gruel. I breakfasted in the house: before leaving it, I went up to her chamber, and found that her abdomen was easier, her skin moist, and her pulse had fallen to 100. The next day, I received a note from her husband, to tell me that the pain and tenderness of the abdomen were quite gone, and that her pulse had fallen to 90. She now left off her opiates, but continued her fomentations, took a mild aperient, and recovered without any further interruption.

In this last case there was more danger of going wrong than in the former. The pulse was quick—and there was a group of symptoms that are generally supposed to indicate peritoneal inflammation, when they attack a woman a few days after parturition. But our author was guided by the habitual constitution of the patient—by the softness of the pulse—the uninfamed appearance of the blood—and the non-relief from venesection. This case taught doctor Gooch, that a lying-in woman might have diffused and permanent pain with tenderness of the abdomen, and rapid pulse, and all these from a state which does not require bleeding—is not relieved by that measure—but which is speedily relieved by fomentations and opiates.

*Case 3.* Doctor G. went to a lady in the country who had had violent hemorrhage after delivery. She rallied from this, and doctor G. returned to town. On the fourth day the doctor was again summoned.

"When I arrived I found the same medical men in the house, who told me that she had that morning been suddenly attacked with a severe rigor, and violent pain in the abdomen; that when

the rigor went off, the skin became hot, and the pulse rapid; that the belly was painful and very tender. They lost no time, but opened a vein in the arm, and took away, they told me, thirty ounces of blood, on which she became very faint, and still continued so. When I went up to her chamber, I found her with sharp features, cold and clammy on her forehead and cheeks, with a pulse scarcely to be felt; the blood was not buffed. She died before I left the house."

The body was not opened, but our author shrewdly conjectures that if, instead of bloodletting, opium and fomentations had been used, the result would have been very different.

Thus far his knowledge of these cases was confined to the symptoms during life, and to the influence of remedies. It was not long before he had an opportunity of seeing the post mortem appearances.

Case. 4. "A practitioner sent for me to see a patient, of whom he gave me the following account: She was habitually delicate, and subject to hysteria. After an easy labour of her eighth child, her after-pains had been long and severe, but her pulse was not quick. At six in the evening of the second day it was soft, and under 80. At four o'clock the next morning, the practitioner was called out of his bed, and found her complaining of great pain and tenderness over the whole abdomen. She had been vomiting; her pulse was quick, but small and weak, and her skin temperate. He immediately bled her, letting the blood flow till she fainted. He next gave her five grains of calomel, and soon afterwards a dose of salts and senna, but the latter was vomited. Two hours after the first bleeding, the pain not having been relieved, he bled her again to fainting. Twelve leeches were applied to the abdomen, and a pill was given her containing three grains of opium. Having received this account, I went into the chamber of the patient. Her face was ghastly; it was difficult to keep her out of a fainting fit; her skin was cold and clammy, and her pulse so quick, small, and fluttering, it could not be counted. I took off the leeches, and endeavored to revive her by warmth and cordials, but she died in the evening, about six hours after my visit, and about thirty from the beginning of pain. The body was opened the next day.

*The peritoneum was healthy, but pale: there were between one and two ounces of colourless serum in its cavity; the abdominal viscera were all healthy, but pale; the uterus was contracted in the ordinary degree."*

Our author feels no doubt that, had the belly been covered with a perpetual fomentation, and an opiate been given every

four hours, instead of bleeding, the patient would have been quite well in a few hours. This, and other cases prove that what doctor Gooch terms an "affection of the peritoneum," an "essential accompaniment of the disease," puerperal fever is not necessarily inflammation—unless there be a *pale* inflammation, without any other cognizable change from perfect integrity of structure!

Within a week after the occurrence of the above case, doctor Gooch was sent for to the same locality, to see another of the same description; but the event was more fortunate, for he treated the case successfully with opium.

"These cases opened to me a new view of the subject; they taught me that a lying-in woman might have permanent pain and tenderness of the abdomen, with a rapid pulse, independent of acute inflammation of the peritoneum, or any other part; that these symptoms may depend on a state which bloodletting does not relieve, and which, if this remedy is carried as far as it requires to be carried in peritonitis, may terminate fatally; and that the most effectual remedies are opiates and fomentations. Most of the patients who were the subjects of these attacks were women, who in their ordinary health were delicate and sensitive; the attack sometimes seemed to originate in violent after-pains, gradually passing into permanent pain and tenderness, resembling inflammation; or in the painful operation of an active purgative; but it could sometimes be traced to no satisfactory cause; the patient had had a common labour, and had experienced no unusual cause of debility or irritation. The pulse in all these cases, although quick, was soft and feeble; this together with the previous constitution of the patient were my chief guides; when I could trace it to any irritating cause, such a griping purge, and when blood had been already drawn without relief, and without being buffed, I saw my way still clearer. When I doubted, I applied leeches to the abdomen."

The cases which doctor Gooch has related, and others similar to them, were speedily and completely relieved by the remedies which he has mentioned. There seemed to be nothing dangerous in this form of disease, provided the nature of it was not mistaken, and improper remedies not employed; yet it so strikingly resembled peritoneal inflammation, that it was invariably taken for it by the practitioners who witnessed it, "all of whom possessed at least that average quantity of sense and knowledge on which the public must extensively depend.

But as these cases were sporadic and with considerable intervals between them, they did not make a strong impression on our author's mind.

"In the winter of the year 1824, puerperal fever was prevalent and fatal in London and its neighbourhood. I had resigned my office at the Westminster Lying-in Hospital, and did not know, or do not remember, what was going on there; but I saw this disease repeatedly in consultation, and heard of it among my medical friends. Several instances occurred of its prevalence among the patients of particular practitioners, whilst others who were equally busy met with few or none. One instance of this kind was very remarkable: a general practitioner in large midwifery practice lost so many patients from puerperal fever, that he determined to deliver no more for some time, but that his partner should attend in his place. This plan was pursued for one month, during which not a case of disease occurred in their practice. The elder practitioner being then sufficiently recovered, returned to his practice, but the first patient he attended was attacked by the disease and died. A physician, who met him in consultation soon afterwards about a case of a different kind, and who knew nothing of his misfortune, asked him whether puerperal fever was at all prevalent in his neighbourhood, on which he burst into tears, and related the above circumstances.

"Among the cases which I saw this season in consultation, four occurred in one month in the practice of one medical man, and all of them terminated fatally.

*Case. 5.* "The first case occurred in a lady, who had been delivered of her first child, after a long and severe labour, not from deformity of bones, but from rigidity of the soft parts and the bulk of the child; it occupied nearly three days. When visited the day after delivery, she was found complaining of considerable pain in the abdomen, great tenderness, oppression at the præcordia, and difficult breathing. The pulse was rapid, but the most remarkable symptom was immense distension of the abdomen, which separated the recti muscles to the distance of two hands' breadth, and protruded between them the anterior wall of the abdomen to a considerable elevation. The projection was returned into the abdomen, and supported by straps of adhesive plaster. The feebleness of the pulse, the exhausted state of the patient, prevented blood from being drawn, but a gentle purge was given. After this had operated, the pain being worse, twenty drops of laudanum were given, and repeated every two hours for several doses, but she sunk

rapidly, and died on the third day after delivery. The body was opened the next day. The intestines were found enormously distended with air, but in the peritoneum there was neither redness, adhesion, nor effusion of any kind.

*Case 6.* "The second case occurred after a common labour of the fourth child. An opiate was ordered for the after pains, and the patient was quite well when visited on the second day. On the evening of the third, she was found to have a diffused pain and tenderness of the belly with a pulse of 140, and not weak. The symptoms had not lasted six hours, the bowels had been emptied by a purgative, fourteen ounces of blood were taken away immediately, and two grains of calomel, with five of compound powder of ipecacuanha, were given every four hours. A few hours afterwards, the pain and tenderness continuing, ten ounces more of blood were taken away, by which she was much relieved. The next day she was not so well, the belly was distended and uneasy, the pulse was quick and weak, and the aspect of the patient very unpromising. A blister was applied, and the calomel was continued, but she sunk rapidly and died little more than two days from the commencement of symptoms. The body was opened the next day, but there was neither redness nor adhesion of the peritoneum, nor effusion of any kind into its cavity.

*Case 7.* "In the third case, the symptoms began thirty-six hours after delivery. The remedies employed were a bleeding of twelve ounces, an emetic, a purgative, and the opium and calomel, with a view of affecting the constitution as soon as possible with mercury, but the rapidity of the disease baffled all these remedies, and the patient died on the third day. The body was opened the following day, and no vestiges of inflammation were found in the peritoneum.

*Case 8.* "In the last case the patient was delivered after a labour attended by no unusual circumstances. She was seen in the evening of the second day, when she appeared quite well, complained of nothing, and had a slow pulse. She continued well till seven o'clock the next morning, when she was seized with pain and tenderness of the belly, but it was not swelled. I saw her at ten o'clock, that is, three hours from the commencement of the attack. Her pallid and weakly appearance, the feebleness of her pulse, the total absence of those symptoms in which I had formerly been so successful with the lancet, and its unfavourable effects in the cases in which I had seen it employed this season, made me unwilling to employ it. But the patient's husband was anxious that some leeches should be ap-

plied; because a few years before she had recovered from what appeared to him a similar illness, under the care of a very eminent physician, from the use of leeches; and the aspect of the case was so decidedly unpromising, that we were unwilling to deprive him of this consolation. Twelve, therefore, were applied to the abdomen, without loss of time, and twelve more subsequently.

"On the evening of the second day of her illness, when I went into her bed-chamber, I found her medical attendant at the bed-side with a decanter of wine, of which he was giving her a spoonful. She was free from pain, calm, and clear-headed, but she was pale, faint, breathless, cold, and had little pulse. Excepting only restlessness, she looked exactly like a woman dying from hemorrhage. The cordials revived her for a few hours, but she died the next morning at four o'clock. The last lying-in patient whom her nurse had attended had died of a similar disease, equally rapid in its course."

Doctor Gooch observes, that he does not state these cases to prove the inefficiency of full and early depletion, (for in two cases it was not used, and in the others not carried to any extent)—the treatment was chiefly conducted by "one of the best practitioners he had ever known," but who had already lost confidence in the lancet in the then prevailing epidemic. He produces these cases on account of the appearances on dissection, "which indicate a disease very different from that which occasions a copious effusion of lymph and serum into the peritoneum." The following case was watched attentively by the author from beginning to end.

*Case 9.* The patient was a lady, whom I had attended in several confinements, but who was this time to ly-in a short distance from town, under the care of the neighbouring surgeon. She was a plump, pale, relaxed woman, with a languid circulation, and subject to nervous attacks. She had a weak stomach, was often troubled by flatulence, at which times dry friction with the hand along the spine would produce the expulsion of a prodigious torrent of air from the mouth with an extraordinary noise; this was her state in her ordinary health. Her labour was very quick. When visited on the second evening she was quite well; the following morning, being still well, she took the usual purgative of salts and senna;\* it operated violently and painfully, and this was followed by diffused pain and tenderness of the abdomen with a rapid pulse. She could neither turn in

\*We certainly were not aware that salts and senna formed the usual purgative on the third morning after parturition. We always understood that



*bed nor bear pressure on the abdomen, but her skin was not hot, and her pulse not hard.* This was the state in which I saw her about eight hours from the commencement of pain. I gave her twenty minims of Battley's laudanum, to be repeated every two hours for three doses; and I ordered the abdomen to be covered with a bag of scalded bran. I saw her in the evening at eight o'clock; the pain of the abdomen was easier, but the pulse was rapid; she could not bear to turn, or to be pressed upon; the belly was larger than in the morning, and the breathing hurried. I now explained to her husband the danger of her condition, and said that if he wished for a consultation, in justice to the patient and to the physician, it ought to be now, not later; about two hours afterwards we succeeded in procuring the attendance of an eminent and able physician. The chief question was about bloodletting; the aspect of the case was very unfavourable, and I believe the consideration, that if it terminated fatally, more regret would be felt at the neglect of bloodletting than at the employment of it, in the prevalent state of medical opinion on the subject, determined us to use it. As it was now, if ever, that bloodletting was to be useful, we determined to carry it to faintness. The gentleman who bled her did not practice widwifery, and had no experience of such cases; but when he felt the pulse before bleeding, he remarked that though quick (it was nearly 130) it was soft. The blood spouted from the arm during the filling of the first two cups, and the fifth cup was more than half full before she felt faint; twelve leeches were next applied to the belly, and these were succeeded by the bag of scalded bran; she took a full opiate that night, and the following morning two drachms of sulphate of magnesia every four hours. When we met however the following day, she was much worse; her belly was tumid, her breathing short, her pulse quick and tremulous, and her mind rambled. An attempt was now made to support her with cordial diet, but she became rapidly worse, and died in the middle of the next night, less than forty-eight hours from the commencement of her symptoms. The body was not opened."

The beneficial effects of a CONSULTATION, and of *prevalent opinion*, are rendered very conspicuous in the foregoing case! Had the "BLACK dose" (*black* indeed) not been given, the probability is, that doctor Gooch would not have been required—

castor oil was the nurse's prescription—and we verily believe it is a much better one than that of the doctor. He who doubts that the *peritoneal affection*, in this case, was brought on by the "usual purgative," must be a sturdy sceptic indeed!—*Rev.*

and had doctor Gooch gone by his own *unbiassed* judgment, the probability is, that the patient would now have been alive.

Doctor G. remarks, that in all these cases the striking circumstances were, the rapidity of the disease, (generally less than three days) and the absence of morbid appearances in the peritoneum after death—although, during life, the whole surface of the abdomen had been painful and tender—and the pulse rapid as in puerperal fever. In our humble opinion, the striking part of the business consists in this—that there are diseases of *irritation* which resemble those of *inflammation*, and which are much more rapidly fatal, if mistaken.

Doctor Gooch next adverts to the case published by Mr. Dalrymple in Farre's Journal, and re-published in our 19th number, page 201, with remarks. We there observed that Mr. Dalrymple's case "might tend to check the effusion of blood during a constitution of the atmosphere which engenders a host of diseases aping the purely inflammatory, but bearing very badly the vigorous depletion to which we have been accustomed for many years past."

In the Winter of 1827—8, peritoneal fevers were very common among the in and the out-patients of the Westminster Lying-in Hospital, of which an account was published in the 11th number of the Medical Gazette, by Mr. Hingeston.

"These cases were all attended by pain and tenderness of the belly, with a rapid pulse; the pain remitted, the skin was moist, and the pulse full and compressible. Most of them were cured, without the lancet, by keeping the abdomen covered with a large, thin, hot linseed-meal poultice, and giving ten grains of compound powder of ipecacuanha, repeated till the pain was gone. If the bowels were constipated, a purgative was previously given; if they were not so, the purgative was postponed till the pain had subsided. In one case, the dry skin and sharp pulse, indicating that the affection of the peritoneum was acutely inflammatory, twenty ounces of good blood were drawn from the arm; ten grains of compound powder of ipecacuanha, with two of calomel, were given, and calomel alone was repeated every six hours: twelve leeches were applied to the abdomen, and afterwards a linseed-meal poultice. The gums became sore in twenty-four hours, and the patient recovered; but after the bleedings she had frequent faintings for several hours, and 'life was reduced to a low ebb.' A striking contrast this to the way in which bleeding to double this extent was borne in the peritoneal fevers from 1810 to 1820. Mr. Hingeston thinks that these cases, which are cured by opium, are the first stage, a

lower degree of that acute inflammation which requires the lancet.

"For the following particulars I am indebted to doctor Ferguson, one of the present physicians to the Westminster Lying-in Hospital.

"During the late autumn and winter there has been much sickness for so small a Hospital. To say nothing of the out-patients, sixty-two in-patients were admitted between September 11, 1828, and February 20, 1829; of these, twenty-eight, (that is, nearly half the number) had peritoneal fever; and of these seven died, that is, one in four. A large proportion of them was cured at once by ten grains of the compound powder of ipecacuanha, every three or four hours for three doses, and a hot linseed meal poultice over the whole belly. Sometimes this treatment removed the pain, but not the soreness; but this was generally removed by the application of leeches. As soon as the symptoms were subdued, the bowels were opened by a mild purge; when these remedies failed the case was a bad one. It may be said by the advocates for bloodletting, that these bad cases might have been saved if they had been bled and purged early and actively; but in those in which the lancet was used, however early, its effect was discouraging. The patients fainted after losing a few ounces, the blood bore no marks of inflammation, and the remedy was followed by great and immediate exhaustion; even leeches, when applied in considerable numbers, and when they bled profusely, in some cases seemed to occasion great exhaustion. But in the cases which I have related from my own experience the lancet was used as early and actively as the warmest advocate for depletion could wish. Case No. 6 was bled without relief, and was immediately relieved by opiates and fomentations. Cases 7 and 8 were bled immediately on the attack of pain, the former to thirty ounces at once, the latter twice to faintness, besides leeches, calomel, and senna mixture, and they immediately and speedily sunk under the remedies. Of the four cases which occurred to one practitioner, No. 10 was bled immediately after the attack, in the evening, and the bleeding was repeated the following morning. The Case, No. 13, began during the violent operation of a purgative; the patient was bled to faintness about fourteen hours after the attack, the blood was not buffed, and she never rose out of the exhaustion which followed. In the case related by Mr. Dalrymple the patient was bled freely five hours from the attack and the effect was similar."

Bad health prevented doctor Gooch from seeing many cases

of peritoneal fever during the last Winter, but he has minutely detailed one, some particulars of which we shall here notice.

*Case.* A woman, previously in good health, was safely delivered at 7 o'clock in the morning of Sunday, when she had a rigor succeeded by fever and pain in the abdomen. For this she took a purgative which operated *fifteen times*. On Monday, at 2. p. m. she had another rigor, and continued feverish. Opiates and aperients were given during Monday and Tuesday, the pain and feverishness having almost entirely subsided. In the evening of Tuesday, she was feverish, restless, with headach, for which leeches were applied—and afterwards she was bled to six ounces. There was no pain, at this time, in the belly or back. Early on Wednesday morning the medical attendant was called up, and found she had passed a restless night, and there were now pain and tenderness of abdomen, and still more in the region of the sacrum, where the bones of the pelvis had been separated in a former labour.

"As the pulse was 120, and hard, fourteen ounces of blood were taken from the arm, and I saw her for the first time this day at one o'clock. The pain and tenderness of the abdomen were still so severe, especially in the right iliac region, that she could not breathe without stopping, and crying out; and turning from her side to her back was so painful, partly from the tenderness of the belly, and partly from the pain of the sacrum, that it occupied a minute or two; the uterus was large, and could not bear pressure; above the umbilicus the abdomen was soft, and without tension; the breasts contained no milk, the lochia were scanty, the pulse, which before the bleeding in the morning had been hard, was soft, and 120; the bowels had been freely purged, and had acted that morning. The treatment agreed upon now was as follows: Twelve leeches were to be applied to the painful part of the abdomen; it was then to be kept constantly covered with a linseed-meal poultice, and when the bites ceased to bleed, fourteen more leeches were applied, succeeded by the poultice. She took twenty minims of the sedative solution of opium immediately; she was to take two grains of calomel every three hours, and five grains of the compound powder of ipecacuanha every six hours, that is with every other dose of the calomel. When we met the next day (Thursday) every symptom was better excepting the pulse; the pain and tenderness of the abdomen were gone, and she could bear firm pressure, and could breathe without inconvenience; the belly was soft and undistended; the uterus was much smaller, and the lochia copious. She was in a warm perspiration, and her breasts were full of

milk, but her pulse was still at 120. As the bowels had not acted for thirty hours, the compound powder of ipecacuanha was discontinued, and a dose of salts and senna given; this was at two in the afternoon. At eleven in the evening, when her attendant visited her she was not so well: she was in no pain, but her cheek was red; she was in a great heat and perspiration, and there was a something about her aspect which he did not like. When I went the next day (Friday) to the consultation, I found the family in alarm, and was told that there had been a great change in the patient for the worse. The pain and tenderness of the abdomen had never returned, but her mind was confused; she was distressed with excessive flatulence, and the abdomen had suddenly become large and tympanitic; yet the pulse was only 116; the purgative had operated copiously, the gums were sore, and the tongue swelled. I have omitted to say that there was an inflammation about the right wrist which threatened to break. From the state of the mouth the calomel was withdrawn, and a dose of turpentine and castor oil ordered every three hours. In the evening she was still worse, bursting with flatulence, more confused in mind, and with a quicker pulse—128. She had had many little fluid motions, with a vast quantity of wind. The danger seemed so near that he made no appointment for the next day, and I never saw her again. She died that morning at seven o'clock, that is, about fifty hours from the second attack of pain in the belly.

"The body was opened the next day by Mr. Stanley. Putrefaction had made rapid progress for the time. The orifice in the vein of the arm, made four days before, had opened after her death, and discharged about half a pint of blood. On opening the abdomen, the intestines were found immensely distended with air; there was no redness of the peritoneum, no adhesion of its surfaces. In the lower part of the abdomen there were about three ounces of a bloody transparent fluid. In both ovaries the internal glandular structure was entirely gone, leaving only a hollow empty capsule; in that of the right ovary there was an aperture. The Fallopian tube on both sides contained pus, not at the uterine, but at the fimbriated end. There was no pus in the uterus; this organ was perfectly healthy: its veins were examined, and were undiseased; its inner surface was of a bright pink more irregular at the part where the placenta generally adheres. The joints of the pelvis were next examined; the symphysis pubis moved readily: on cutting into the cartilages were sound, but the space between them contained a bloody

fluid. The sacro-iliac joints were still more affected: the sacrum projected from the ossa innominata half an inch; within the joint was a bloody fluid, mixed with some loose lymph."

Our author suspects that the withdrawal of the opium, and the exhibition of the senna and salts contributed not a little to blast the fair prospects which dawned on the Thursday of the foregoing narrative. He further remarks that, he who looks for a copious effusion of serum and lymph as the essential appearances of puerperal fever, will be likely to deny that this was that disease at all. But Dr. G. is of a different opinion. He thinks it was puerperal fever, rendered much more dangerous than usual, by complication with disease in the sacro-iliac joints.

"The foregoing facts, and many others similar which I could relate, permit me no longer to doubt that there is a form of peritoneal fever in child-bed, which although it has the ordinary symptoms—pain and tenderness of the belly, with a rapid pulse, is very different from the peritoneal fevers which prevailed between 1810 and 1820; different in its duration, which is much shorter, in the way in which it is affected by bloodletting: and lastly, in the morbid appearances discovered after death. This form of the disease, like the acute inflammatory form, may occur only occasionally or sporadically, when it is readily and speedily cured by opiates, fomentations, gentle aperients, and sometimes leeches; or it may become prevalent or epidemic, and consequently more malignant; in other words, more fatal and difficult of cure.

"The most remarkable circumstance which the experience of the last few years has taught us about peritoneal fevers is, that they may occur in their most malignant and fatal form, and yet leave few or no vestiges in the peritoneum after death. The state of this membrane indicated by pain and tenderness of the abdomen, with a rapid pulse, appears to be not one uniform state, but one which varies so much in different cases, that a scale might be formed of its several varieties; this scale would begin with little more than a nervous affection, often removable by soothing remedies, and, when terminating fatally, leaving no morbid appearances discoverable after death. Next above this, a state in which this nervous affection is combined with some degree of congestion, indicated in the cases which recover, by the relief afforded by leeches, and in the cases which die, by slight redness in parts of the peritoneum, and a slight effusion of serum, sometimes colourless, sometimes stained with blood. Above this might be placed those cases in which there are, in

the peritoneum, the effusions of inflammation without its redness, namely, a pale peritoneum and no adhesions, lymph like a thin layer of soft custard, and a copious effusion of serum rendered turbid by soft lymph. Lastly, the vestiges of acute inflammation of the peritoneum, namely, redness of this membrane, adhesion of its contiguous surfaces, a copious effusion of serum, and large masses of lymph.

"The experience of the last few years has brought me to this conclusion: that the sanguine hopes which were entertained, a few years ago, that the peritoneal fevers of lying-in women are always of an acute inflammatory type, and always to be cured by early bleeding and purging, as they were not borne out by the reasoning employed, so they have not been confirmed by subsequent experience."

How are we to act when new epidemics arise? is a question asked by our author. We believe the answer is—we must grope our way, as Sydenham did before our time. We agree with doctor Gooch, that it is a most important object to see the patient as early as possible in the disease. But this does not depend on our own choice, but on that of nurses—"an intractable race." The next advice is—

"To undertake the treatment of these diseases with the belief that they depend not on one and the same state, acute inflammation of the peritoneum, demanding one and the same treatment, bleeding and purging, but that they depend on different states in different cases, and epidemics, which require so much caution and discrimination to distinguish, that the most cautious and discriminating practitioner will sometimes err."

Lastly, doctor Gooch would urge practitioners of midwifery to make themselves familiarly acquainted with those modes of treatment which appear, on competent authority, to have been, at times at least, most successful, so as to have them ready to apply whenever the occasion occurs. Many practitioners have but one set of ideas respecting puerperal fever, and mode of treatment to meet it. When this fails they are bewildered, and before they can "search the scriptures," for information, many of their patients are lost.

"The remedies, of the efficacy of which there is most evidence are, 1st, bleeding and purging; 2d, emetic doses of ipecacuanha; 3d, opiates internally, and poultices externally to the abdomen; 4th, mercury given so as to affect the constitution; 5th, oil of turpentine."

On each of these remedies doctor Gooch makes some judicious remarks. He properly observes that, there is a class of

peritoneal fevers in which the affection of the peritoneum is acute inflammation—and that of the constitution is inflammatory fever—"although this inflammatory state often lasts only a few hours." These cases may be either sporadic or epidemic. We can only ascertain their nature by watching, as was said before, "the constitution of the year."

"The power of mercury as a remedy for inflammation has been so clearly made out in inflammation of the eye, the liver, and the pericardium, and not only its power, but the inadequacy of bloodletting to overcome inflammation in these organs without the aid of this remedy, that it deserves a fair trial in peritoneal fevers. I have never given it systematically in a number of cases, but what experience I have is in its favour. In the Westminster Lying-in Hospital, when ten or twenty grains of calomel used to be given every day, with purgatives, the gums sometimes were affected, and these patients invariably recovered. During the last winter it was tried in a few cases; when the gums became affected the patients recovered; but in others the disease was more rapid than the remedy, and the patients died without the mercury having affected them. The method of using it is to give two grains of calomel every two hours, until the gums became sore, or without this effect, until there is evidence that the circulation is drawn from the peritoneum to other surfaces, especially the bowels, the kidneys, and the skin; and this is attended by a subsidence of the disease, indicated by a diminution in the frequency of the pulse, a cessation of the pain, and the patient being able to turn in bed, and bear pressure. During the use of the calomel, opium generally requires to be used at longer intervals, as five or ten grains of the compound powder of ipecacuanha once in four hours."

The symptoms which call for the use of opium are, severe pain, profuse purging, or sinking of the general circulation. Even when the gums are sore, doctor G. thinks the calomel should not be suddenly withdrawn, but given at longer intervals. This is the plan successfully employed by doctor Farre.

"There is a class of cases attended by pain and tenderness of the abdomen, with a rapid pulse, which does not require bleeding, which does not bear it to the extent to which it is necessary in the inflammatory peritoneal fevers, and which is speedily and effectually cured by opiates internally, with hot poultices to the belly, aperients and, sometimes leeches.—There is reason to believe that this form of the disease is present when the patient in her ordinary health is delicate and nervous—when the pain and tenderness have followed any irrita



ting cause, such as severe after-pains, or a griping purge—when the pulse, although quick, is perfectly soft, and even weak, and this opinion is strengthened, if blood has been drawn without relief, and without the signs of inflammation on its surface. The best way of treating these cases, is to wash out the large bowels by a very large glyster, to give ten grains of compound powder of ipecacuanha every three hours, till the pain is gone, to keep the abdomen constantly covered with a warm linseed-meal poultice, and after the pain has ceased, if the abdomen continue sore, and the pulse quick, to apply leeches, and give a mild purge. When I doubt the nature of the case, I apply leeches at the beginning.”

We have now brought the subject of peritoneal or puerperal fever to a close, and have endeavoured to let both authors speak for themselves, and as much as possible, in their own idiom. In this respect we have somewhat deviated from our usual course, that of preferring condensed analysis to frequent extracts. Such works as those which are now before us do not often present themselves—and we have proportioned the extent of our reviews to the value which we conceive they possess. To the several other articles in doctor Gooch's book we shall dedicate such space as we deem advisable; but with them, we shall be able to deal more in our usual analytical style.

We have said at page 470 of this volume, that we do not recognize any thing new in the theory, observations or practice, in the foregoing article on puerperal diseases. We do not wish, however, to be understood to mean that we approve of every sentiment, or practical precept; although we are pleased with the views in general, expressed by the authors and the reviewer.

Such being the fact, we deem it proper to offer a few remarks upon a point or two which we deem important; not wishing however, by any means to take up the subject of puerperal diseases at this time.

Doctor Johnson alluding to the “*methodus medendi*” of doctor Hall says, “the plan is this. The patient is to be placed upright, and bled to incipient syncope. If there be much inflammation, much blood will flow before syncope occurs, and much blood ought to be taken—in *intestinal irritation*, on the contrary, and, a fortiori, in exhaustion, the abstraction of a very little blood will induce syncope.” “No doubt (says doctor Johnson) this plan will admit of modifications—of exceptions.” *Nulla perpetua præcepta medicina recipit.*”

We not only think, with doctor Johnson, that this rule of practice will admit of “exceptions;” but, we believe, that although it may, no doubt, be applied to advantage in some instances, yet, as a general rule, we hold it to be not only fallacious, but often erroneous and unsafe. And we would also object to the opinion, that “if there be inflammation much blood will flow before syncope occurs.” So far is this from quadrating with our observations and experience, that we believe that where there is very high excitement—a state of infarction; or what doctor Rush denominated “suf-

focated excitement," a state of inflammatory disease recognized by Sydenham, who says, that *nature, being oppressed, does not manifest symptoms suitable to the disease.*

In this state of things we know from daily observation, that there exists the strongest possible necessity for free—nay, copious bloodletting, and, yet, there is often great difficulty in avoiding syncope, in such circumstances, although the patient be bled in the recumbent posture. In such cases we find the pulse depressed and small mostly; sometimes full, but always tense. There is little action of the artery; but whether the pulse be full or small, by opening a vein, and lessening the stimulus of distention of the vessels, we shall increase the action or motive power of them, and thereby relieve the peculiar depression, and give rise to more ordinary signs of inflammation and fever, after which our patient will bear bleeding without fainting.

In this condition of diseased action, if we were to adopt the rule of practice suggested by doctor Hall, we should seldom succeed in effecting our purpose; at least, not without subjecting our patients to great danger from the practice. But by suffering the patient to lie down, we can, in good habits, in perhaps all cases, by a few repetitions to such extent as the patient can bear, without going further than "incipient syncope," remove the oppression, unlock the vessels, and thus enable our patient to bear the requisite loss of blood, however copious, which may be necessary for arresting the disease altogether.

We readily agree with doctor Johnson when he says, "*nulla perpetua praecepta medicina recipit,*" but nevertheless, we believe there are certain rules of practice, based upon sound maxims, that very seldom deceive the experienced practitioner—among these we hold *that the measure of muscular strength, obtained by setting your patient erect, is no measure of the amount of inflammation present, whether you detract blood or not.*

In support of this position, we shall now offer a few remarks. We have already noticed the fact, that there is often much difficulty in obtaining as much blood as will serve to unlock the blood-vessels, on account of the tendency to syncope, although we suffer the patient to lie down. What then are we to do in such cases, with the rule of doctor Hall, that you can measure the amount of inflammation present, by setting your patient erect? This author tells us that he does not bleed with a "view of producing a deliquium merely; but also that the deliquium may serve as a guide, in judging of the extent to which we may carry the depletion. If the patient be sitting upright and faint by the loss of blood, we have a security and remedy against any danger from this event, in laying the patient low." Now is it not a little remarkable that doctor Hall, should acknowledge, that by setting up the patient, you increase the tendency to syncope, and yet, he prefers this position, because he can overcome the syncope by laying his patient down. That is, at the onset of inflammatory disease, he wishes to induce syncope, in which there is no possible danger; and, yet he is anxious to check it as speedily as possible by laying the patient low. For what purpose then does he produce the syncope? Surely not merely to test the amount of inflammation, by thus testing the amount of muscular strength. If the fainting of the patient be so essential, why not let it occur?

We do not mean to speculate on this branch of our present subject, we shall therefore close our remarks as speedily as the nature of the subject will admit. Is there any material danger from syncope where bloodletting is indicated? If there is, we should be more sparing in the employment of the remedy to that extent. Is it really proper in ordinary cases of inflammatory disease, whether puerperal or not, *thus to test the*

*system*; or should we generally adopt this method with a view of checking the disease? We unhesitatingly say, this "plan" is not generally necessary or proper, in puerperal diseases of this country. Is there no other method of judging of the effects of bloodletting; of the amount to which it is to be carried, short of inducing fainting, that is equally satisfactory, and also less exceptionable? We think there is, and shall proceed briefly to offer a few practical hints on this point.

Imagine a patient about to undergo venesection for some inflammatory disease. The vein opened; we watch the countenance of the patient; we feel the pulse, as the blood flows. If the patient becomes pallid, the lips whiten, the face is covered with perspiration—the pulse becomes more feeble, more irregular; provided you have a delicate patient, or have any scruples that bleeding may possibly not be proper, and yet you wish to test the system, you should now under any of these circumstances desist for the time. If the case be urgent, wait half an hour; untie the arm, and let blood flow again, or this may be done at any other interval that may be deemed proper.

Should your patient not manifest any of the signs of approaching syncope, take a reasonable quantity of blood, ten, twelve, or twenty ounces and then desist. Should this make but little impression on the disease, you must bleed after a reasonable interval, suited to the circumstances of the case.

We would not condemn indiscriminately, the employment of bloodletting *ad deliquium animi*—on the contrary, we well know, that in many cases of sanguineous inflammation it may be adopted, under suitable circumstances, to great advantage. But it is not especially upon the female, whether parturient or not, that we are to employ this practice with so liberal a hand, as has been suggested by doctor Hall—and we say, pointedly, never on the ground that we can thereby measure the amount of inflammation present. It is in athletic men, and some such women, that we obtain such marked advantages from carrying our abstraction of blood to the extent of fainting. But even here, we shall experience more decisive benefit from the remedy, after we shall have emptied the vessels of a portion of their blood, by previous detractions of blood. We will not say that there may not be cases in which it would be safe and even necessary to adopt this practice in parturient patients; but, when we take into consideration the comparative delicacy of the female system, we cannot approve this severe practice.

It may be answered, that the employment of venesection in the manner recommended by doctor Hall, will enable us to relieve the inflammation with less loss of blood, and, therefore, our patients will pass through our hands less debilitated, than if blood had been more freely drawn. We answer, that, the experience of the profession is decidedly at variance with this position. For ourselves we think, nothing connected with the treatment of sanguineous inflammation, is more manifest, than that we must, in many cases, remove a considerable quantity of blood before we can subdue high inflammatory action. We hold that one of the more important measures in the treatment of inflammation is the copious detraction of blood. We will not stop, at this time, to inquire into the reasons on which we ground the practice of copious depletion in high grades of inflammation. The experience of the profession fully establishes its high importance, nay, proves it to be indispensably necessary. And even the author now before us, says, that in the first place, nothing can be trusted to save the patient but the most *ample bloodletting*, and in the second place, that nothing should preclude the use of this remedy but the actual state of

sinking." Now, it must be obvious at first sight, that *ample bloodletting* can never be carried into effect in many cases, by using the remedy so as to induce syncope, because we will thereby be prevented from emptying the vessels sufficiently. This may sometimes be owing to peculiarity in the disease;—and, not unfrequently to mental anxiety of timid patients; or to an habitually disposition to fainting, upon losing even small quantities of blood.

There is another point of primary importance in forming our theory in relation to puerperal diseases; and, consequently in the application of our remediate agents, since the latter can only be skilfully applied by some sound governing principle. We allude here to the state of disease which doctor Hall denominates "intestinal irritation." This author has made the following remarks upon the treatment of this state of disease in the parturient patient.

"The remedies of intestinal irritation and its effects, I would enumerate and arrange in the following order; first, the full evacuation of the intestinal canal; secondly, bloodletting; thirdly, some kindly anodyne; fourthly, leeches, cupping, a lotion, a liniment or blister, according to the circumstances of the case, for the topical affection; fifthly, the mildest, nutritious food; sixthly, the most absolute quiet, and the most perfect security from light, noise, disturbance, and every other source of excitation; seventhly, every soothing plan; eighthly, great coolness, and free ventilation of the sick room; and lastly, a constant watching over the patient during sleep, to avoid the injurious effects of turbulent dreams on the one hand, and too long sleep and fasting, on the other."

It seems proper that we should offer a few reflections upon each item contained in the foregoing summary of remedies proposed by doctor Hall. But since it seems but reasonable that we can only prescribe rationally when we have well founded indications, and these indications must arise from the most satisfactory principle which we can bring to our aid, we must first inquire what is meant in the present instance by irritation.

So far as we have been able to investigate the subject of irritation, we have been led to believe, that there is nothing connected with the more modern pathological doctrines involved in greater uncertainty than this subject. Whether we look to Mr. Abernethy, to Mr. A. Cooper or any other British writer within our recollection, and not excepting doctor Darwin, we find nothing which serves to give fixedness to an idea, which we would wish to convey by the term irritation.

Indeed we find that almost every thing that is obscure, occult, indefinable, is named *irritation*—and yet no one has succeeded, so far as we know, in making the profession acquainted with this mysterious condition of the animal body.

We shall purposely avoid entering into any particular explanations on this point, since we have commenced in the present volume an inquiry into this subject. In the continuance of this inquiry, we shall examine the various views offered by some of the more respectable authorities on the subject. As regards such authorities, let it suffice at this time to remind the reader, that Mr. A. Cooper has told us that the treatment for irritation and for inflammation are pretty generally the same. And doctor Hall has, in our opinion, confounded irritation with subacute inflammation.

The present writer has taught in his lectures, that irritation is the proximate cause of inflammation. That every inflammation has therefore its foregoing irritation; and further, as irritations are peculiar, of course, each peculiar inflammation has its own peculiar foregoing irritation. For instance, if there be a scrofulous or syphilitic, or any other irritation which

precedes the inflammatory action which is seen in the local seat of these diseases, it is obvious that as the inflammation is peculiar, that the forerunning irritation must have been specific also.

Now we believe that it is universally admitted that the brain and nervous system in their entire range, constitute a sensory in which exists all sensation or perception; and, there is sufficient evidence, we think, that all irritation is situated in these tissues; and, altogether in their medullary structure. Their vascular associated, or directly subsidiary vessels, and enveloping membranes, are subject to inflammation like other parts.

What may be the essential nature of irritation, it is highly probable, will for ever remain unknown; but, it seems pretty manifest that it is a mere disturbance of the principle, by which the animal body is animated.

With this brief exposition of our notions respecting irritation, we shall now proceed to make a practical application. Is there interruption of the sensorial energies in a part, say of some part of the intestinal tube, from some hurtful agent applied to their internal surface; or some loss of proportion in the sustaining nervous principle, from any cause whatever—as by over, or reduced excitement of the enlarged and emptied womb; or we may have a fault in the nervous energies in the womb, or any adjacent organ—this will soon lead to vascular derangement, and this being the forerunner, if not the incipient state of inflammation, the deranged action must be arrested here, or we have all the phenomena connected with inflammation presented.

It is, however, not more true that there is a foregoing irritation or nervous derangement, than that this irritation, so inseparable from inflammation, varies continually, both in respect to its duration, and in its force. Often times the *stage or period* of irritation is so clearly marked, that it is clearly discernable; whereas, in others its duration is so limited, that its consequent inflammation arrives so quick upon its heels as to appear a part of the same diseased process; and hence the principal source of error in comparing irritation with inflammation. These states are to a certain extent inseparable, but still we perceive that while there can be no inflammation, without its foregoing irritation, there may be irritation without inflammation. This often arises in good habits, from the natural repairing or conservative operations of the body, and very frequently from timely measures for arresting the irritation. This will often be done by rest, quiet, abstinence, aperients, an emetic, a warm bath, &c; and, especially, by the use of opium before the irritation shall have roused up vascular action.

In some instances we may readily believe, indeed, we think it is pretty obvious, that in some frail habits, or in those more firm, under peculiar exhausting circumstances, as living in an impure atmosphere, &c. the irritation may be so violent, or the vascular tissues so feeble, as to sink under the irritation or nervous impairment, without the supervention of inflammation at all. Such, we have no doubt, was the nature of some of the cases of *intestinal irritation* noticed by doctor Hall; and such were the cases noticed by doctor Gooch, where the compound powder of ipecacuanha gave relief without the co-operation of any depletory measures.

But after all, we more than suspect, that doctor Hall has confounded cases of subacute inflammation, with cases of irritation. We can scarcely read the views of M. Broussais, and of Armstrong on this subject, and think otherwise.

If the views which we have presented respecting irritation be correct, it will follow, that we cannot be too circumspect in distinguishing this state of morbid derangement from vascular derangement, to which it is the an-

precedent. Thus we recognize puerperal abdominal disease, under three well defined states or conditions; first, of irritation; secondly, of subacute inflammation; and thirdly, of more direct sanguineous inflammation. Our indications will therefore be threefold.

The state of irritation being an impairment of the sensorial energies of the part or organ affected, our remedies must be of a soothing kind, as opiates, warm bath, fomentations, rubefacients, &c., so far as the diseased action is concerned; but, always in addition to this, it will be necessary to remove, if possible, the proximate cause of the irritation; this will mostly be found, in the disease under consideration, to be sordes in the intestinal canal, or renal, hepatic, or dermoid derangement. These several points are to be looked to, and our remedies suited to the nature of the case. And hence, we shall find in the state of irritation, that we are to soothe down supersensation, and check an action, the tendency of which is to increase vascular action. And hence too, we see the truth of the maxim of Hippocrates, *ubi dolor ibi fluxus*; and that we must relieve a torpid liver, kidneys, or skin. These indications being understood, the practitioner will easily select his remediate agents.

There will always be some difficulty in distinguishing, in a satisfactory manner, the point at which irritation ceases and inflammation takes place. Indeed, as the former gives rise to the latter, we must expect to see them frequently blended; and, we shall find that so far is irritation from retiring as inflammation advances, that although a forerunner, it clings to its companion, and thus continues to form a part of the mischief.

As regards irritation in the abstract, we hold that bloodletting is never its appropriate antidote, except so far as there may be some accidental associated disease present, in some other part of the body. Thus, if there be a state of general plethora, or catarrhal affection, &c. which does not constitute any direct part of abdominal irritation, nor give rise to it, it may be proper to draw blood, not only with a view of removing this associated diseased action, but for the purpose of reducing the general vascular tone, and thus to prepare the way for opiates, external irritants, &c.

We have not attempted to explain our views in general, on the subject of irritation; we have already said, that we shall devote our particular attention to this subject hereafter. It has been our principal aim, in the present instance, to call the attention of the profession to the loose rein with which British writers ride this modern hobby-horse: and to contend, that puerperal abdominal disease has *three well marked conditions*; and, that skill consists in adjusting remedies to each, to the force of each, and to the blendings of all. That, whether this disease be epidemic or sporadic, it will be under the influence of season in most instances; and, therefore, while we look well to the disease, we must *watch*, with especial care, that we may distinguish our *ledentia* from our *juvantia*. Such being the *fact*, we can only say of the various remedies recommended by doctor Hall, for "intestinal irritation," that they will all become hurtful, or beneficial, as they shall, or not be, suited to the stage and force of the disease.

We cannot conclude, however, without a passing remark on two of the items in the catalogue of remedies proposed by doctor Hall. He recommends "great coolness."—Now, if we are right in supposing the state of irritation to be a condition approaching to collapse, or, rather, perhaps, a state of debility of the part or organ affected, we should not rashly expose our patients to great coolness; by doing so, we will greatly increase the danger of the advancing inflammation, on the one hand, and of producing a state of general collapse on the other, which shall lead to a fatal termination, without the occurrence of inflammation at all.

We are also admonished to keep a "constant watching over the patient during sleep, to avoid the injurious effects of turbulent dreams, on the one hand, and too long and sound sleep, and fasting on the other." We will not detain the reader with remarks on this point, further than to say, that we consider it alike frivolous and unattainable. Our patients are seldom in much danger of suffering by inanition; for one instance of this kind, we mean in acute disease, there are hundreds, nay, thousands who suffer from officious friends, or nurses, giving nourishment prematurely. If doctor Hall can give us any clue by which we can find out the time of turbulent dreams, he will do what others cannot, so far as our knowledge extends on this point.

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**ART. XIV. Case of Aneurism by Anastomosis, in which both the primitive carotid arteries were tied.** By R. D. MUSSEY, M. D. Professor of Anatomy and Surgery, in Dartmouth College Hanover, New Hampshire.

Copied from the Am. Jour. of the Medical Sciences. Accompanied with Remarks by Horatio G. Jameson, M. D.

IT may be recollected, by our readers, that we offered a few comments and strictures, at page 342, of the present volume, upon an operation performed by Mr. Brodie for the removal of a vascular tumor situated on the forehead of a female. We there objected to this operation as being coarse and cruel. We would refer our readers to that article for information, but wish to remark, here, that two needles were passed through the centre of the tumor, from side to side, so as to cross at right angles in the middle of the tumor. The tumor was then strangulated by ligatures lapped around, which were kept down, by passing them under the needles. Much pain and delay attended the action of the ligatures, *it being necessary to tighten them after the parts were inflamed.*

We then suggested that it would have been much better to have passed a scalpel around the tumor, so as to cut on the supplying vessels, and then tie them as usual. We are much pleased that doctor Mussey, by his operation, fully substantiates the opinion which we expressed in noticing the case of Mr. Brodie.

"J. Pattee, aged 26 years, consulted me (says doctor Mussey,) in September, 1827, respecting a pulsating purple tumor, situated upon the vertex of the head, with a base of about five inches in diameter, and rising an inch and a half or two inches above the cranium. This tumor had existed from infancy, but had greatly increased within the last three years. Upon the apex of the tumor was a sluggish ulcer, of an inch in diameter, which commenced two years before, had been slowly enlarging, and which bled occasionally during the preceding spring and summer, and once to the amount of two quarts, as estimated by his physician.

"The left temporal artery and vein, where they pass in front of the ear, presented through the integuments the appearance of a vessel five-eighths of an inch in diameter. This was so prominent in its winding course along the temple, and even to the base of the tumor, that its pulsation could be distinctly seen at the distance of *fifteen feet*. A vein which passed down the forehead, was full and prominent, and half an inch in diameter; when the head was shaved, more than *twenty* arteries, running to the tumor were seen actively pulsating, none of which, as they appeared through the integuments, were less than a middling sized goose quill."

"Curious to know what would be the effect of securing the large arteries, from which branches were distributed to the tumor, I tied, on the 20th. of September, the left primitive carotid. The tumor, after the operation, was a little less tense, and less livid; still the active pulsation of the numerous arteries, upon the right of the base, of the tumor, rendered it evident that there was an adequate supply of blood. On the 12th. day, from the operation, I tied the right primitive carotid artery. The face was a good deal paler immediately after the operation, but what was scarcely to have been expected, the functions of the brain were not apparently disturbed. There was neither nausea nor faintness; the patient rose from the table, stood up, and while standing up, put on his vest and coat, and tied his cravat, he then walked down two flights of stairs, got into a carriage, and rode to a distant part of the village, without feeling the least symptoms of faintness, or manifesting signs of inconvenience.

"The tumor, which after the operation, was daily dressed with a compress and bandage, so as to make slight compression upon it, the compress being constantly kept moist with alum water, progressively subsided, and in four weeks was reduced apparently to about one-third of its original volume. At this period, the tumor became stationary, and in five or six days began very slightly to enlarge; its color was a little deepened, and a feeble thrill corresponding with the pulse in other parts, could occasionally be perceived in the left temporal artery. These appearances indicating that nothing further was to be expected from the tying of the carotid, astringent applications and compression; I proceeded on the 22d. of November, about six weeks from the second operation, to remove the tumor.

"This was accomplished by first encircling the tumor by an incision made quite through the soft parts, and then rapidly dissecting away the whole mass from the pericranium. More than an hour was occupied in carrying the knife around the base of the tumor;



the whole operation was conducted with immediate reference to the saving of blood. Not more than an inch and a half of the scalp was divided at a time, and immediately upon the division firm compression was made upon each lip of the incision, while the vessels were secured by ligatures, more than forty of which were applied in going round the tumor. Notwithstanding, however, these precautions, it was estimated by all present, that blood to the amount of nearly two quarts was lost during the operation. The patient was faint, and continued feeble for several hours. The naked pericranium, equal in extent to about twenty-five square inches, granulated kindly, and in eight weeks the wound was nearly healed. It was some months, however, before the cuticle, through its whole extent, became firm, so as to sustain itself under considerable variations in the state of the circulation. The patient returned to active labor upon a farm, the following March or April, has continued ever since, and has been one of the most athletic and industrious laborers I have seen.

"This case is interesting in a physiological view, for at no period subsequent to the operation of tying the second carotid, with the exception of the faintness and debility which occurred from the actual loss of blood, on the removal of the tumor, has there been a single symptom of deficiency of blood in the brain. Indeed, at one period, viz. in the Spring of 1829, sixteen or seventeen months after the operation, the opposite state seems to have existed; as the patient had a flushed face, accompanied with headach daily, for two or three weeks, and was not relieved essentially by cathartics. A single large bleeding, entirely removed the symptoms."

Aneurism from anastomosis, so termed by Mr. John Bell, is a disease of pretty frequent occurrence, and as may be seen in the above case, reported by doctor Mussey, and many others on record, it sometimes becomes a formidable disease. Such being the fact, we have deemed it proper to offer a few remarks upon the subject.

We believe Mr. Bell is the first writer who made the profession well acquainted with the subject of anastomosing aneurism. He not only describes the disease in his own inimitable style, but has given us a singularly lucid and correct description of the phenomena, which attend this affection. We, therefore, think it due to the memory of Mr. Bell, to copy his observations, with a view of exciting attention to the disease before us; because the subject is highly important; and, because, we think that as regards the pathology of "aneurism from anastomosis" this author has giving us so faithful a *drawing*, and, although in copying after it, we may sometimes in a slight degree improve the slighter shadings; yet, as regards the grand *outlines* there is little room for improvement. We proceed to make such extracts as we deem important.

"That kind of aneurism (says Mr. Bell) which I venture to name aneurism from anastomosis, resembles those bloody tumors which appear in new-born children, occupying chiefly the lips, cheeks, eyelids, or hairy scalp, and which grow, in process of time, to an important size, bursting at last, and bleeding furiously, so as to oblige us to cut them out."

"The disease which I am now about to describe arises, not only from such natural deformity, but also from various hidden causes; it often begins in adults, increasing from a trivial purple-like speck, to a formidable disease. This aneurism consists in a mutual enlargement of the smaller arteries and veins.

"In both diseases, viz. of connate aneurisms appearing, when the child is born, in form of a small livid tubercle; and of those forming spontaneously, or arising from a blow, the process of their growth and increase is the same. When a set of cutaneous vessels first enter into this diseased action, which draws all the arteries of the adjoining parts into sympathy with them; *the arteries behind them convey more blood and push it on rapidly*; these larger arteries begin to feel the disease, while the central group thus supported by the arteries behind, acts powerfully, the tumor begins its pulsations, *and like a punctum saliens*, forms vessels as it were, by enlarging those small branches which were not visible before. The little arteries work powerfully and are dilated; the corresponding veins are proportionably enlarged; the number and activity of those arteries and veins are slowly increased. *This increased circulation solicits more blood towards the tumor; and while the central branches impel their blood with greater rapidity, the trunks they come from, follow up that action and work so as to keep them all full.*

The foregoing paragraph involves a very important pathological question which has been received by some pathologists, and objected to by others. We allude to the circumstance of partial increased arterial action. Many physiologists contend with Harvey, that the heart is the organ by which the blood is propelled and circulated throughout the body; while others, with J. Hunter, ascribe a portion of motive agency to the arteries. The former, or at least some of them, adopting such physiological views, cannot easily admit that there is partial morbid arterial action—those on the contrary, who believe that the arteries have a propelling power, will find less difficulty in acknowledging the views of Mr. Bell, that, in the disease in view, the arteries do take on increased action, and in many cases the derangement is not otherwise morbid, except so far as it is excessive.

We do not wish at this time to extend our remarks upon this pathological point in its general bearings. In confining our observations to the views and descriptions of Mr. Bell, we shall find matter of fact which irresistibly leads to the conclusion, that in aneurism from anastomosis, the arteries do increase in their action—to which we may add, that we have frequent opportunity of verifying the opinion of Mr. Bell.

Mr. Bell states the case of a young gentleman who had an aneurismal tumor over the brow. A surgeon attempted to remove it by operation, but not understanding the nature of the case, he, after tying some of the arteries, abandoned the case. By the time the wound healed, the tumor was as large as before the operation. Mr. Bell being now consulted, and being aware of the nature of the disease, he had to deal with, found no difficulty in removing the tumor entirely with the knife; and in describing the operation gives us the following highly interesting and important information. "I was sure (says Mr. Bell) that, it was a kind of tumor which was not to be cut open, but to be cut out."

Our author first tied the temporal artery, but found that the "pulsation in the tumor was nothing affected" by it. After stating some of his reflections at this step of the operation, he goes on to make the following remarks."

"I made an oval incision, which comprehended about a fourth part of the surface of the tumor; dissected the skin of each side of it down rapidly; I went down to the root of the tumor, and turned it out from the bone. The tumor was a perfect cellular mass, like a piece of sponge soaked in blood; was tolerably solid, and dissected out very clean, in the form of a regular tumor; it bled furiously during the operation, (that I had resolved to disregard,) *but the moment the tumor was out, there was not one drop of blood, the surface was clean,* the pericranium quite bloodless, the lower artery stood wagging out of its hole in the orbit."

This is a very important fact, because it proves that as this tumor bled "furiously during the operation," but did not bleed more than ordinary afterwards, that the supplying arteries to those tumors, must, as Mr. Bell says, afford more blood as the increased circulation in the tumor "solicits more blood"—"and while the central branches impel their blood with greater rapidity, the trunks they come from, follow up that action, and work so as to keep them full." This fact is equally important because it shows the advantages of operating on these tumors early. Thus it appears that, this form of tumor like many others, commences often in a mere point—the disease becomes a sort of "punctum saliens," the vessels of the tumor "work powerfully," and having fairly established a central point of increased arterial action, the surrounding, and supplying trunks, will be gradually involved in the increased labor; so that by delay the disease may attain a very formidable aspect, though still remediable by operation, as we see in the case of doctor Mussey; or if situated on parts less accessible, they may become incurable, since we will find Mr. Bell correct, when he says, that we must *cut this disease out*. This may be done in some situations when we can tie the arteries as we proceed in the operation.

There is one circumstance connected with the case of doctor Mussey, which we should not overlook—we allude to the vast enlargement of the arteries. Does this not in the most satisfactory manner, show that there is increased partial arterial action, such as has been so ably pointed out by Mr. Bell—Why do the arteries become enlarged? Because the "punctum saliens" set up in the veins and arteries, as the nucleus of a vascular tumor, brings the supplying trunks into consent of action.

An important suggestion grows out of the sentiment expressed in the preceding paragraph, viz: that as many of the cases of aneurism from

anastomosis have originated from *nævi materni*, it is the especial duty of the accoucheur, or family physician, to inform parents of the risk of such tumors, and request at least a vigilant care over them; and strictly enjoin as a parental duty, that if they increase in their growth they should be removed. In a great majority of instances they may be removed in their incipient stage, by a very trifling operation. And no one should be ignorant nor unmindful of doctor Physick's method of surrounding these tumors, when situated on the head, by an incision carried through all the supplying vessels, and then dressing the wound so as to prevent the parts from uniting by the first intention.

We should not overlook the circumstance connected with the case of doctor Mussey that ligature to both the common carotids did not arrest the disease. The remedy was a rational one, and has often been attended with success. We believe the cases of Mr. Travers, and Mr. Dalrymple, of this form of aneurism situated in the orbit of the eye, were the first cured by the application of the ligature of the carotid. Since then many similar fortunate cases have been reported. Among them is a very interesting case of Mr. Cox, of the Federal City, who was relieved by ligature to the carotid, after attempts at extirpation had failed. We have always been of the opinion, however, that Mr. Cox's case was not a simple case of aneurism from anastomosis—it seems to have been a complication of this disease, with common aneurism. It may not, therefore, be strictly correct to place this among those of anastomosing aneurism cured by ligature—this is a point, however, which we shall not attempt positively to decide.

The surgical reader will recollect that there have been successful, and unsuccessful cases enough to raise the important question, whether the ligature is to be generally relied on; if not, under what circumstances it may be employed, &c.? We do not mean in this place to go into any general inquiry on this subject, but shall briefly offer a few reflections upon the description and theory of this disease, by John Bell, with a view of showing that, under suitable circumstances, it is a rational method: but, like all others, it will sometimes effect a cure, while in others, little or no advantage will arise from its employment.

If the theory of Mr. Bell be correct, that there is first a *punctum saliens* which gradually extends its influence further and further, to the surrounding arteries, as these become involved in the disease to greater extent; it will follow, that, as a general rule, the ligature will succeed best, in proportion to the earliness of its application. So far as our observation and information extend, the ligature has never succeeded after the tumor had attained very considerable magnitude; but when it has been employed in the early stage of vascular tumors, it has often succeeded.

We do not exempt the case of Mr. Cox from this remark, even if we were to admit that it was anastomosing aneurism. It is true we were informed by Mr. Pattison, that, this tumor had attained a size "nearly equal to the head of a new born child," another gentleman who frequently examined this tumor, and was present at the operation, assured us it did not exceed the size of a middling lemon.

We need not be surprised to see a discrepancy of opinion respecting the use of the ligature in the disease under notice. But since in this instance, as in most others, where there is *authority* opposed to *authority*, it is surely desirable to ascertain if possible the true cause for such variance of opinion; and we have been led to believe that here, as in other cases, different results and difference of opinion, arise from our taking cases to be similar that really are not so; thus, in the present instance, if tying the carotid will cure an aneurism, which has attained the size of a walnut, and, as yet, has brought but few of the blood-vessels into consent of action,

it does not follow that we shall succeed after the tumor has attained perhaps ten or twenty times that size, and involves the consent of vascular action, upon which the disease depends, to ten or twenty times the extent.

By way of reminding the reader of the difference of opinion which has existed among respectable practical surgeons, we cite an opinion or two. Mr. A. Burns, speaking of this form of aneurism says, "that any attempt to cure this disease by ligature of the arteries which support it, is entirely out of the question." We have already seen that Mr. John Bell says, you can only manage it by cutting it out. Subsequently, however, to the expression of these opinions, we find that this disease has really been cured by the ligature.

What course may we adopt as a general rule? We think it will be found that where the tumor has become very large, and is of long standing, so that a considerable portion of the arterial system is involved, we should not trust to ligature, if the case admit of any other method. When the disease is somewhat recent, but more especially, if the tumor be small, formed rather by dilatation of the vessels, than by a thickening of the structures in general, we may expect a favourable result from tying the main supplying arterial trunk or trunks.

Believing as we do that this is a subject requiring particular attention, on account of the frequency of the disease, and its intractable nature, when suffered to advance too far, or when unfavourably situated, and, withal, sometimes obscure in its diagnostic signs; or that there are some anomalies closely allied to it, we shall detain the reader a minute or two longer, while we cite a few remarks from Mr. John Bell's surgery. This author after alluding to cases of anastomosing aneurism, under the head of salivary tumors, tells us that pulsation is not a *sine qua non* to the disease.

"But pulsation is not an essential, inseparable characteristic of such tumors, and it is my duty to give you notice of this fact, and to acknowledge, with that generous temper which becomes one discoursing upon matters of life and death, whatever errors or mistakes I recollect in my own opinions or practice."

Mr. Bell goes on ingenuously to acknowledge a mistake which he had made in a case of tumor. He says, "I believed that it contained matter, and was confident at all events, that there was no shadow of danger in making the experiment of puncturing the tumor"—he continues, "I made a slight incision through the skin, and, with the point of a bleeding lancet, punctured the sac, and found that it contained arterial blood." Still he says, that although there was bleeding from "innumerable small vessels," there was "no pulsation" in the part.

We must not forget in our reflections on this subject that, there are many cases of *navi materni* where a vascular growth progresses with considerable rapidity, being aneurism from anastomosis, in all its characteristic marks except the pulsation.

Several cases of this kind have come under our notice—one in which a considerable portion of the skin, in various places was disorganized by this disease—the tumors grew rapidly, were very deep coloured, and produced so much deformity, that, the miserable mother, influenced by poverty, carried her child about as an object of curiosity, with a view of obtaining alms. We have known some of these tumors to attain considerable size in early life and remain stationary for many years. They should never be trusted. We shall hereafter give the details of a formidable case of this kind in which we operated.

**ART. XV. *The Anatomy, Physiology, and Diseases of the Teeth,***  
 By THOMAS BELL, F. R. S. &c. *Lecturer on the Teeth at*  
*Guy's Hospital, &c.*

This article is copied from the Medico-Chirurgical Review of doctor Johnson. In thus selecting from this highly distinguished periodical, we are influenced mainly by a desire to instruct our readers, but we must honestly confess, that we are, in part, influenced by the consideration, that in our profession, as in other departments of human concerns, "things far fetched and dearly bought are most esteemed." The present article we trust will be acceptable, on account of its treating of a subject but little noticed in surgical works. In our larger cities where dentistry is made a separate branch, there may be less necessity for studying the diseases of the teeth, but, even here, no man ought to be ignorant of such diseases.

A moment's reflection will convince us that affections of the teeth are often so intimately interwoven with other diseases, that, it is necessary that the physician should make himself acquainted with such associations of disease. Toothach, for instance, may arise as a sympathetic affection, as is sometimes seen in pregnant women—or diseases of the teeth may give rise to constitutional irritation, both in children and adults; and it, therefore, behoves us to be prepared to recognize this connection of morbid action, both with a view to know when a diseased tooth ought to be removed, and, also, to enable us to trace sympathetic irritation of the body, arising from disease of the teeth, to its true source, and, thus, by removing the tooth, remove the *root* of the evil.

To the country practitioner some tolerable share of acquaintance with dental surgery is absolutely essential. Such we would remind of a duty incumbent upon them to study the diseases of the teeth, because as it is a part of their profession to know *how* to remove teeth, they should also know *when* to remove them, since this, in most instances, is a matter involving more judgment and skill, than the extraction of teeth.

We have preferred presenting this article entire. Some of our readers will no doubt be pleased with the facetious style in which doctor Johnson has commented on Mr. Bell's work. To others it may not be uninteresting to see occasional specimens of the taste and style of our more distinguished reviewers on the other side of the *water*, although they may not admire it. Should there be any who would object to the humorous style of the reviewer, on a subject involving some of our *most exquisite feelings*, we would console them by saying what we honestly believe; and what we think most readers will acknowledge, that doctor Johnson seldom, distributes his ink from the quill without presenting something important to medical science.

The text will be found enclosed within quotation marks—the remarks of the reviewer will be known by not having such marks.

**W**HEN we look at the *BEAU IDEAL* which Mr. Lawrence drew of the "ONE AND INDIVISIBLE," a few years ago, and compare it with the actual distracted, divided, and subdivided state of medicine and surgery, we shall conclude that the talented Painter must have had his organ of *IDEALITY* strongly excited on that occasion. If physic and surgery be indivisible in themselves, or from each other, how is it that we see them split and splitting

in all directions? The Profession appears like a congregation of various wild animals around a carrion. One pecks out the *eyes*; another the *teeth*; a third tugs at the *ears*; a fourth shows its predilection for the *skin*; a fifth, (of the true vulture species) gorges on the *liver*; a sixth drains the *gall-bladder*, and like a generous *church-warden*, spirts its nauseous contents on his neighbours; a seventh makes a hearty meal on the *stomach*; an eighth prefers the *bladder*, and, strange to say, converts gravel into gold:—in short, there is scarcely an organ or structure of the human body, which does not furnish a PROFESSORSHIP in physic or surgery—down even to the spine, and the more crooked or carious this is, the more to the taste of the professor of spinalogy! The different parts of the body having thus been seized upon by distinct operatives, there is scarcely any thing left for the *pure* physician, the *pure* surgeon—nay, for the GENERAL PRACTITIONER himself! These three classes are fast approaching the seventh age of Shakspeare, and are likely to be soon—

“Sans eyes, sans teeth, sans ears, sans every thing,”

Various are the opinions as to the utility or inutility of these divisions and subdivisions in practice, but it is evident that the public has already decided the question in their favour. This being the case we have only to hope that the different PROFESSORS will qualify themselves in *general* medical science and literature, before they devote themselves to particular branches of practice. The want of this has, in many instances, brought odium on the PROFESSORSHIPS; but is now in course of rectification. We apprehend that this “division of labour” in our art has not contributed much to unity of opinion among the artists—nor yet to liberality of sentiment towards each other. In the course of our editorial labours, we learnt one caution at least—never to set an oculist, aurist, dentist, or other MONO-MEDICASTER (we beg pardon for the term) to the task of reviewing his neighbour’s work. To do so would be to commit little less than literary homicide! The oculist would be sure to leave his brother oculist without an eye—the dentist would put it out of his neighbour’s power hereafter to bite—while the aurist would deafen his collaborateur with censures loud and deep. It is on this account that, uninitiated as we are in the secrets of dental, aural, and ophthalmic surgery, we are forced on the task of reviewing these chef-d’œuvres of art, without the aid of the adepts. Fortunately, we deal but little in CRITICISM, and the operation of ANALYSIS is so much a matter of fact process, as to be carried on without the help of ARISTOTLE.

Mr. Bell has long been distinguished as an able practical dentist, and scientific lecturer on dental surgery. Having reputation to lose among his professional brethren, it is not likely that he would come before the public, as some authors do, in disguise. Mr. Bell has evidently endeavoured to construct a work of reference for the practitioner, and a text-book for the student, containing a "plain and practical digest of the information at present possessed on the subject—and the results of the author's own investigations and experience." The work being in great part an elementary one, is not a proper object for analysis—particularly the anatomical and physiological portions; but the second part of the volume, containing a description of the diseases of the teeth, the causes of these diseases and the methods of treatment, will furnish us with ample and useful materials for one, if not two articles in this Journal.

Two opposing doctrines have tended much to produce confusion and misunderstanding in the pathology of the teeth. One sect denied the organization of these bodies, and consequently denied their susceptibility to diseased conditions—the other party maintained the identity of the teeth with the bones, not only in their structure but in their diseases. The principle which Mr. Bell maintains in this work is that, although the structure of the teeth is similar to that of bone, yet the phenomena which the teeth display in disease, are so modified by *the lower grade of their organization*, and the less active condition of their living powers, as, in many cases, to exhibit characters essentially different from those which belong to the analogous diseases of bones. To these obvious causes of discrepancy, may be added, the uniform density of their substance—the absence of cancelli the peculiarity of their situation, a part being exposed to internal causes of disease protected only by a thin layer of inorganic matter. With these preliminary observations our author proceeds to dental diseases.

#### I.—GANGRENE OF THE TEETH, VULGARLY CALLED CARIES.

This is one of the most common dental diseases; but the term is wrong, and calculated to mislead. The disease has not the slightest analogy to true caries of bone. Mr. B. proposes to substitute the term gangrene, a word expressing the real nature of the case.

"It usually attacks the crown of the tooth; sometimes, though rarely the neck; but I believe it scarcely ever makes its first appearance on the root. It invariably shows itself on the external surface on the bone, immediately underneath the enamel, and



its existence is in many cases, first indicated by an opaque spot on that substance, occasioned by partial breaking down of its crystalline structure; in others, its presence is shewn by the discolored bone being seen through the semi-transparency of the enamel. If at this stage of the disease the tooth be sawn through at that part, so as to intersect its centre, a brown mark will be found in the bone, immediately under the opaque spot of the enamel, extending more or less into the substance of the tooth, in a line tending directly towards the cavity; it is darkest at the surface, where, from the disease having commenced at that part, its progress is more advanced, becoming gradually lighter towards the centre."

The disease does not begin in the enamel, but the crystalline structure of the latter is deranged by the want of support in the gangrene part beneath. The mortification insidiously increases, and destruction of the bone goes on in a central direction, the part becoming blackish and softened, till at last the enamel itself gives way, and discovers a cavity below. When the internal cavity of the tooth is either actually exposed, or covered only by a softened portion of the bone, inflammation spreads to the lining membrane, and produces what Burns emphatically calls that "hell o' disease"—the **TOOTHACHE!** Thus portion after portion is destroyed, till the whole crown of the tooth is removed, and the roots only remain as dead extraneous matters in the sockets. In this state they often remain stationary for years, but in very irritable constitutions, a cold, a mercurial impregnation, indigestion, or some other cause, will occasion irritation in the socket, followed sometimes by abscess in the alveolus, caries of the bone, or tumors of various kinds—nay, by pains bearing a close resemblance to tic douloureux. In some people the decay takes place gradually and unaccompanied by pain.

"When the roots are, by the advance of gangrene, rendered mere extraneous bodies in the alveoli, three different actions are set up to effect their removal. In the first place, absorption of the alveoli and gums occurs to such an extent, as gradually to loosen the roots, by depriving them of their support. At the same time also, a deposition of bone takes place at the bottom of the socket, which, by degrees, forces the root into the substance of the gum, until it may often be seen lying horizontally, imbedded in that substance, without any attachment to the bone, or the slightest lodgment in the socket; and in the third place, the roots themselves undergo absorption at their extremities, so that at

length, a very small portion only is, in many cases found to remain."

*Causes of Dental Gangrene.*—Hunter and Blake approached very near to the true etiology, but still, according to Mr. B. they fell short of the mark. The following is Mr. Bell's doctrine in a very few words.

"When from cold or from any other cause, a tooth becomes inflamed, the part which suffers the most severely is unable, from its possessing comparatively but a small degree of vital power, to recover the effects of inflammation, and mortification of that part is the consequence."

That the bony structure of the tooth is *liable* to inflammation Mr. B. considers to be proved, not only by the identity of symptoms with those of osseous inflammation elsewhere, but by the fact, that distinct patches are often found in teeth, injected with the red particles of blood. The continued and invariable progress of dental gangrene is to be accounted for by the structure of the organ and the seat of the disease. When a portion of tooth is killed by inflammation, it excites an increased action in the vessels of the surrounding portion of bone; but the ratio of vitality here, being very low, the diseased part cannot be thrown off, as in other bones—hence the continued extension of the dental gangrene. The common supposition, that this gangrene may arise from merely external causes acting on the enamel is, Mr. B. observes, fallacious.

*Predisposing and Remote Causes.* Hereditary predisposition is the most common and the most remarkable among the *first* class. It often happens that this tendency exists either in the whole or great part of a family of children, where one of the parents had been similarly affected. Our author has often seen the very same tooth, and the same part of the tooth, affected in several individuals of the same family and about the same age. The whole list of infantile diseases, which occur during the formation of permanent teeth, are so many predisposing causes of dental gangrene—and not the diseases alone, but some of the remedies employed in their cure—as mercury, for example, injudiciously used. The strumous constitution is very liable to this disease.

Amongst the *remote* causes, or those which produce a deleterious change in the constitution of the teeth, subsequent to their formation, one of the most extensive Mr. B. thinks is mercury. But fevers of every kind, dyspepsies—in short, all constitutional disorders of any protracted continuance, must be classed amongst the remote causes of dental gangrene.

*Exciting causes.* Whatever tends to induce inflammation in the teeth may become an exciting cause. The most frequent are the sudden vicissitudes of temperature, whether atmospheric, or from taking very hot or cold substances into the mouth.

"As a general rule it may be observed, that whatever is placed in contact with the teeth, either so much higher or lower than the natural temperature of the body, as to produce pain, may probably prove to be the exciting cause of the disease; thus, drinking very hot fluids on the one hand, and, on the other, taking ice, without the precaution of preventing it from laying in contact with the teeth, are, I am convinced, fertile sources of disease in these organs. When the extremely dense, solid structure of the teeth is considered, it will not appear wonderful that this result should occur from change of temperature in a part, the unyielding nature of which precludes the possibility of expansion and contraction, not only the vessels of its substance, but also in its membrane filling its cavity."

The exposure of the bony structure of a tooth by the destruction of its enamel, whether the consequence of imperfect formation, accidental fracture, or the lateral pressure of the teeth against each other, is another exciting cause of dental gangrene by inflammation. The general notion, that one decaying tooth will communicate the disease to another, is, Mr. B. avers, erroneous. Mr. B. in the 10th vol. *Med.-Chir. Transactions* has endeavoured to prove that "this is totally inconsistent with fact, with the chemical composition of the teeth, and with the cause of gangrene, is already explained." There can be no chemical agent, he observes, evolved in the destruction of one tooth which can possible occasion the decomposition of another. "Nor, as the bone of a perfect tooth is completely protected by the enamel, could any substance of an irritating nature, (supposing such to be evolved,) come in contact with the living portion of the sound tooth." This is a serious point of discrepancy among the "*PROFESSORS OF DENTISTRY*," and we wish they would settle it without sacrificing the grinders of the community at large. If Mr. Bell's doctrine be true, we are every day losing our teeth unnecessarily by extraction—if he be wrong, we shall lose them by the spread of the disease! About the following piece of advice there can be little difference of opinion.

"Whatever tends to irritate and inflame the gum, must in a greater or less degree produce a corresponding irritation in the teeth, from the close connexion which subsists between them; and hence the accumulation of tartar, portions of food remaining between the teeth, or any similar circumstance, may pos-

sibly become an exciting cause of gangrene; and this, not only by means of inflammation propagated through the gum, but also by the exposure of the necks of the teeth to external agents, in consequence of the absorption of the gum and alveolar processes. The necessity of keeping the teeth in a constant state of cleanliness, and freedom from all extraneous substances, will be particularly insisted upon in another place, but deserves to be alluded to here, as a means of preventing the occurrence of gangrene from the causes just mentioned."

*Precautions against Dental Gangrene.* Under this head our author has laid down many rules, which are, no doubt, judicious. In the first place, fluids should never be taken into the mouth either so hot or so cold as to produce pain. In the second place, when any inflammation is set up in a tooth, it should be immediately reduced by the application of leeches to the gum, as near as possible to the part in pain. This should be repeated, and the bleeding encouraged by holding warm water in the mouth.

"When, from the want of room in the maxillary arch, the teeth are so crowded as to press with considerable force against each other, this pressure should be removed, by passing a very thin file between those which are, in the greatest degree, subjected to it. These will generally be the incisores. As a very small portion only will be required to be removed, the file should be as thin as possible, and exceedingly fine. It is of the utmost consequence that the whole thickness of the enamel should *not* be taken away from either of the teeth between which the file is passed, but that a perfect covering of this substance should still be preserved, to protect the bone from external agents; and it is never to be forgotten that this operation is only to be had recourse to, as the least of two evils, and, therefore, requires care and judgment in deciding upon the propriety of its adoption. In the mode of its application also, care must be taken that the force used shall be so regular and moderate, as not to risk the chipping off or the fracturing of the enamel. Should a bicuspid, or even a molar tooth be already considerably diseased, it will, in many cases, be sufficient to remove it; for by degrees, the other teeth will tend towards the vacancy, so as to take off their mutual pressure upon each other, and thus obviate the necessity of filing."

*Treatment of Dental Gangrene.* When Gangrene has actually occurred in a tooth, it is very probable that the progress is not to be stopped by art. In the earliest stage, where the only indication of the disease is an opaque or darkish spot on

the enamel, and before the subjacent bone has become softened, a careful removal of the diseased spot should, if possible, be effected. By this procedure, the exciting cause of irritation is withdrawn. The excision should be confined to the dead portion. The file is a dangerous instrument, as it cannot be restricted to the decayed part, but must necessarily remove a portion of sound tooth. Yet it is the only instrument which, at an early period of the disease, and where the enamel is not weakened by softening down the bone beneath, can effect the purpose. It must, therefore, be worked with great caution. If the bone be still very hard, it should be taken away by strong steel brooches, having three sided points, and being of various sizes.

*Filling the Cavity produced by Gangrene.* This operation is often necessary, to exclude the external causes of the original disease—and, when carefully performed, it is, in many cases, perfectly effectual in arresting the further progress of the malady.

"The substance best adapted for this purpose is pure gold, both on account of its ductility and the toughness of its texture, and, more particularly, because it is not liable to become oxydized. Tin and silver are frequently used, but they combine too readily with oxygen to be sufficiently durable. Lead is still more objectionable, as its salts are readily soluble in the saliva; and where many teeth have been filled with it, particularly if the decay is extensive, and there is consequently a considerable surface of the metal exposed to the action of that solvent, the stomach may probably become materially disordered by it. Platina is free from these objections, but, in addition to its being usually alloyed to render it malleable, it is less tough and ductile than gold. Metallic compounds, fusible at a very slight degree of heat, have been recommended, and are now used, not only on the continent, but in some instances in this country.—These are decidedly objectionable, not only for the reasons already given for rejecting other oxydizable metals, but also from the very imperfect manner in which the metal runs into the inequalities of the cavity, and the inadequate protection which it consequently affords.

"The gold should be beaten very thin for small cavities, and rather thicker for larger ones, but in no case should it be so thick as not easily to be pressed into any form, and forced into all the irregularities of the cavity. It should also be thoroughly annealed after it is beaten to the proper thickness, in order to

deprive it of the elasticity which it had received from the hammer.

"A sufficient quantity of gold is to be taken in one piece to complete the stopping of each tooth; for if too small a piece be used at first, and the deficiency be supplied by a second, the latter will be liable to be removed by the food in mastication. The gold is to be forced by degrees into the tooth, taking care that the first portion is placed in contact with the bottom of the cavity, and that every succeeding portion is firmly pressed against that which preceded it, so that every irregularity of the excavation shall be filled. If this be not attended to, and the whole of the gold be carelessly and slightly pressed into the cavity, and the degree of force necessary to its complete consolidation be afterwards given to the whole mass at once, it often happens that the gold forms a hard solid body at the orifice, and a short space within it; whilst the bottom of the cavity is left wholly unprotected. The gold is, therefore, to be gradually and firmly introduced into the cavity, every portion receiving the degree of force necessary to its consolidation, until the tooth is completely filled, and the gold forms a hard, unyielding, and continuous mass. Any superfluous metal is then to be cut off, and the surface polished with a little steel burnisher."

We shall not enter into a description of the various instruments necessary for this operation. Mr. Bell has given Mr. Koecker a sly rub about the number which the latter employs—but this we shall pass. Mr. B. remarks that it is not uncommon for dentists to fill teeth, where the bone has become softened to such an extent as to occasion pain on being pressed, and where the total removal of the decay would expose the membrane of the tooth. In these cases the dead bone is forced into contact with the membrane, or the gold is pressed upon the naked nerve. In both cases, the effect is the same. Inflammation and great suffering are generally the result. These sufferings may sometimes be obviated by removing the stopping, and introducing a solution of the nitrate of silver by means of a camel's hair pencil, the cavity having been previously cleaned and dried. If the inflammation has continued till the periosteum is thickened and matter has begun to form, the tooth must be extracted. As a general rule, the hollow of a tooth should never be filled at a time when pressure of the gold occasions that peculiar pain arising from contact with the membrane.

The actual cautery, sulphuric acid, and other corrosive caustics, have been employed to destroy the nerve of the tooth; but they are all objected to by Mr. Bell. The best application,

for the purpose of obtunding the sensibility of the membrane or promoting its absorption, is alcohol, or solution of nitrate of silver. Camphorated alcohol is preferred by our author. The sensibility obtunded the process of stopping may be resorted to.

**TOOTHACHE.** This is one of the most excruciating pains to which humanity is liable. The sensation is *sui generis*—scarcely is *tic douloureux* more agonizing. The sympathetic affections to which it gives rise are very numerous. The pain often *appears* to be seated in parts remote, as the face, scalp, ear, jaw, neck, shoulder, and even along the whole arm. That of the ear, however, is the most common of the sympathetic pains, from exposure of the nerve supplying the inferior dens sapientiæ. Cases of idiopathic earach are comparatively rare. There are few applications of much use in this distressing malady. "The following are perhaps the most useful."

"R. Aluminis, ʒi.

Spir. Æther. Nitrici f ʒss. Misce.

"R. Acid, Muriatis. f ʒss.

Aquæ distillatæ f ʒij. Misce.

"R. Argenti Nitrat. gr. i.

Aquæ distillatæ f ʒi. Misc.

"A small bit of lint, wetted with either of these liquids, may be frequently introduced into the cavity, which should be carefully dried previous to each application.

"It is however only by treating this affection, as nearly as the circumstances will admit, upon the same principles as inflammation in other parts, that any relief can, in general, be rationally expected. In those attacks, therefore, in which the inflammation is considerable, and there is any particular reason for preserving the tooth, leeches should be freely and repeatedly applied to the gum, the bleeding being encouraged by repeatedly holding warm water in the mouth. After the inflammation and pain are thus reduced, should the nerve be only in a small part exposed, the means already mentioned for diminishing its sensibility may be had recourse to. But the hope of relief which these remedies may, from occasional success, hold out, is in most instances completely fallacious, and the extraction of the tooth can alone be depended upon."

The operation of excising the crown of the tooth, as practised by Mr. Fay, is reprobated by our author in the strongest terms, as attended, to his knowledge, with injurious, nay, even fatal consequences. "It is an operation irrational in its principle, often

useless in its immediate effects, and in its consequences most pernicious."

"It has always appeared to me to place the operator in a dilemma of evils. The object, I presume, is to cut through, or, more properly, to break off the tooth so low as to remove the whole of the crown, including the cavity which contains the pulp or membrane. If this object be effected, the consequence is, that the dead roots remain in the alveoli; and these, if not immediately productive of pain, may yet be expected to occasion much future suffering as extraneous irritating bodies. Every one knows what is the usual result of the existence of dead roots in the jaw, when they have been left either by accident in an attempt at extraction, or by the gradual decay of the crown; and it is surely too much to adopt as an useful operation, that which every one deprecates as an accidental occurrence."

"If on the other hand,—as indeed it frequently happens,—the object aimed at be not fulfilled, the case is placed in a situation incomparably worse than before, the nerve being still more exposed, and the hope of the ready and easy extraction taken away by the loss of that part of the tooth which would have afforded a solid support for the instrument."

*Total Necrosis of the Teeth.* The causes of this state are various. A blow sufficiently forcible to break the vessels entering the foramen of the root—inflammation occasioning separation of the internal membrane—fever—the immoderate use of mercury—and many other causes, may produce total dental necrosis. The incisores or cuspidati are the teeth most subject to the disease. When the tooth has been sometime dead, it begins to assume a darkish colour, which gradually increases to black. Meantime inflammation takes place in the socket—the gum becomes spongy—and there is a constant discharge of matter through one or more openings opposite the root. Next come on absorption of the alveolar process, and loosening of the tooth.

"In the earlier stages of necrosis, free and repeated scarification of the gum, followed by the application of a strong astringent lotion, will be found very beneficial; I have also employed the injection of a solution of sulphate of zinc underneath the gum into the enlarged alveolus, by means of the extremely fine tube of a syringe, with much advantage in checking the formation of pus, and giving tone to the gums. It is, however, obvious that when an extraneous body, like this, exists in the socket, nothing short of its removal can effect a cure."

Attempts to cure toothach by extracting the tooth and then replacing it, bring on a state precisely similar to the above. Mr.



Fox, who first proposed this procedure, candidly acknowledged its entire failure. The transplanting of teeth is deprecated by Mr. Bell, and is, we should think, now entirely given up, after the dreadful consequences which are known to have resulted from it.

*Exostosis of the Teeth.* A deposit of bone occasionally takes place on the root of a tooth precisely similar to exostosis in other bones. The new substance is of a particularly hard dense texture, of a yellowish transparent hue. It is occasioned by an increased and irregular action of the vessels—a kind of chronic inflammation, the result, in most instances of incipient gangrene.

“Hence its progress is so tardy, that, in most instances, the enlargement of the alveolus by absorption, almost keeps pace with the deposition of new bone; and the pressure which the latter produces is so trifling and gradual, as to occasion no more than a slight, though continued uneasiness; and it is only when caries has extended to the cavity, and toothach is produced by the exposure of the membrane, that the patient is induced to lose the tooth, and that the true cause of the previous affection is ascertained. In other instances the continued irritation occasions thickening of the periosteum, and afterwards suppuration, and the case becomes one of simple alveolar abscess.”

The pressure arising from this enlargement of the root sometimes produces an affection resembling tic douloureux. The following case is important, as it shows how small an exostosis will produce the most painful symptoms.

“Mr. — had for some months suffered severe and frequent paroxysms of pain on the left side of the face, apparently commencing in the second inferior bicuspid, and the darting through the lower jaw to the ear, and upwards to the temple. The pain resembled tic douloureux in the nature of its attacks, but was evidently produced by a local rather than a constitutional cause, from the paroxysms occurring without the least periodical regularity, and from their being excited by the application of heat to the teeth of that part. On the most careful examination, however, I could not discover the least appearance of caries in any of the teeth, and I therefore ordered leeches to be applied to the gum, and directed aperient medicines and abstinence from all stimulating food. This plan was productive only of temporary and partial relief, and in about two days the pain was as severe as ever. Finding that a smart blow on the second bicuspid produced a more painful sensation than on any other tooth, I determined on extracting it, and found the extremity enlarged by a deposition of bone, giving to it a slightly bulbous shape, but not

larger than the tip of a small quill. The newly added bone was yellower and more transparent than the original structure, as is generally the case in this disease. The removal of the tooth was followed by immediate and entire relief."

Here we shall close our first article. In our next paper we shall proceed with various other diseases of the teeth. This short analysis will demonstrate to the general practitioner, as well as the professed dentist, the importance and the value of Mr. Bell's book, which we can conscientiously recommend to all classes of our readers.

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ART. XVI. *Singular Case of Ascites.* By WILLIAM DONALDSON, M. D., Baltimore: Communicated to, and reported by SAMUEL ANNAN, M. D., Baltimore.

**MISS** ———, aged about 30, from her earliest recollection has had an unusual protuberance of the abdomen; which came to be noticed and remarked upon, by strangers, about her thirteenth year.—It continued increasing, and at seventeen or eighteen, was very conspicuous—affecting her shape so as to require a peculiar construction of her clothes. Satisfactory evidence of continued enlargement has of late years been afforded, by her garments becoming too small;—health has always been good;—no examination was made by a physician, till last autumn—at which time she was about the size of a pregnant woman at the full period. Doctor Donaldson was then attending her for some trifling indisposition, and his attention being called to the disease of the abdomen, he discovered that that cavity contained a fluid. He proposed tapping,—which he performed, sustained by doctor Handy; and a quantity of limpid, transparent serum was evacuated. No tendency to return was exhibited; and she recovered without the appearance of any unpleasant symptoms, except a retention of urine, which required the use of the catheter for a few days.

Whether the above is a case of congenital ascites, can only be conjectured;—I am inclined to believe it was—which is also doctor Donaldson's opinion—if so, it is useless to endeavour to discover the cause of the destruction of the equilibrium of the exhalent and absorbing vessels. If the disease commenced subsequent to birth, and prior to the recollection of the patient, its origin may have been a subacute peritonitis; but little, or not at

all, noticed at the time; the congested vessels relieving themselves by the exhalation of serum; and passing into a state of chronic morbid excitement, which became habitual.

The removal of the fluid, changed the action and restored the balance of the secreting and absorbing vessels. It is manifest that the disease did not proceed from organic affection of the viscera. The previous and subsequent good health, and the absence of any tendency to return, sufficiently proves this opinion. Where ascites arises from organic disease of the liver or spleen, it is never permanently removed, and but seldom even relieved, till those diseases are cured.

As it was impossible to ascertain the condition of the viscera till after the evacuation of the fluid, the tapping may be considered as partly tentative and exploratory. The subsequent treatment to be determined by circumstances.

The loss of tone in the bladder, by the removal of that support against the distending force of the fluid poured into it by the ureters, to which it had been accustomed during so many years, is what might rationally be expected.

The case is highly creditable to the sagacity of the distinguished physician, who conducted it to a favourable termination.

## REVIEWS.

**ART. I.** *The Institutes and Practice of Surgery; being the outlines of a course of Lectures.* By WILLIAM GIBSON, M. D. *Professor of Surgery in the University of Pennsylvania, Surgeon and Clinical Lecturer to the Alms-house Infirmary, &c.*

IT may be recollected by our readers, that we passed in review a portion of the above work, in the present volume, page 255—and at page 280, we thus concluded—"We are inclined to think, we have noticed most of the work which may be considered as belonging to the Institutes. In our examination of the practical part, we anticipate at least, a more favourable opinion, if we do not find room for commendation. Doubtless the practical is the better part of the work." The most remarkable trait which we discover in the practical part of doctor Gibson's work is, the ample lists of references which are made to other works; and the very remarkable conciseness of his observations, and plan of treatment, in each disease. This has its advantages, and may be proper in works designed for students: or it may be a useful guide to the young physician, in the selection of a library. Such may consult the work before us with advantage. But to the general practitioner, and more especially those out of cities, this characteristic of the work, in great degree, destroys its utility.

A great majority of our practitioners, who become extensively engaged in business, have not leisure to read extensively; for such, to pick up a work upon surgery in time of hurry, or when a sickly season leaves no time for reading, and find a few common place observations; perhaps, in no degree suited to a case under consideration, though it may be referable to the same class of disease in which they seek for information, will be to meet with disappointment. In many instances it will be in vain, that, the practitioner is told to look into such, and such works, perchance, he may not have them, and he may not be able to obtain them at the time wanted. And where pecuniary considerations are not in the way, it may truly be asserted that any man who has all the works referred to, by doctor Gibson, will stand in very little need of the book of reference, since there is not, we believe, any thing original in the work. So very remarkable an amount of reference excited our curiosity, to turn hastily over the list of names of works quoted, or rather,

referred to; and, we find they amount to upwards of one hundred and seventy; many of them works of considerable extent, so that we shall find the total amounting to several hundred volumes; here are octavos, and quartos, &c. enough to keep a busy practitioner reading all his life, should he live as long as Methuselah; and, forsooth, if there be any meaning in these references, he must read all these books before he can become acquainted with the principles of surgery, at least, such is the opinion of our author.

But we would ask, what is the practitioner to think, when he turns to doctor Gibson's book for information, on some surgical disease, and finds a few of the more ordinary circumstances, signs, and phenomena; and the treatment of some disease, summed up in one page, and that a disease perhaps which has puzzled the profession from the dawn of medical science. Running his eye over the article without seeing any thing that meets his case, he finds himself put off, by being told, that certain authors must be consulted, many of whose works have never been in general circulation, and some of which are perhaps, only to be found in the library of some rich professor; or, if they are not there, their names may be found in Mr. Samuel Cooper's medical dictionary; but how shall we get at them? One thing appears pretty certain on this point, that a good library may enable a man to appear very learned by the *power* of title pages. He may, if industrious, write a good book and give the name of every book in his library, however large, in a few months. But if we were disposed to inflict a punishment on a practitioner, we would not ask a greater, than that of making him study the one hundred and seventy or eighty works, quoted by the author before us.

We do not mean to object to the plan of giving references to the better authorities, provided, only, that an author shall not, under this pretext, put into the hands of the profession works purporting to be original, and yet leave us to read another and another book before we can form an opinion. Now we are well aware, that in many cases much reading, reflection, and experience, are requisite to enable the practitioner to afford his patient the best resources of the healing art; but we object to the plan of loose book making. And within these terms, we include works embracing all the diseases to be met with, within the per-view of surgery, in two small octavos, printed with large type; with thick leading, and about one-third of the paper left blank. If we are not mistaken, there is but one man in America whose *situation* will enable him to give free currency to a work so con-

structed. What is the obligation in which he places the profession under such circumstances?

We are far from wishing to be understood that the work under review does not contain a great amount of important practical information. But we must insist, that, by attempting too much the author has accomplished too little, as regards the utility of his work. With his ample opportunity for observation, we had a right to expect much instruction, from the author of the *Institutes and Practice of Surgery*. But while we admit that much practical information is to be found in the work, we must express our regret that, a work so meagre, compared to many others, should usurp their place. That we are not doing injustice to the work, we shall now endeavor to prove, by turning our attention to a few of the chapters, on the more important subjects in surgery.

We believe the subject of luxations to be of the first importance to the surgeon, for the following reasons—they are liable to occur every where, and in an *especial manner* require immediate relief, or the patient becomes a cripple for life, in many instances; and, in almost every case, he will be a great loser, by even a few hours delay; and more so where the delay amounts to some days. In many cases, calling for the capital operations in surgery, the patient may take time to consult as many surgeons as he, or his family physician, may deem requisite, but in luxation relief is demanded instant. It is therefore absolutely essential, that practitioners in country situations, should not only make themselves familiar with the subject generally; but, they should guard against that forgetfulness, which, so invariably, attends upon the surgeon whose services are seldom wanted, by having books calculated to illustrate any particular difficulty, which may fall in their way. Let us then imagine a patient who has suffered a luxation in his thigh for instance—his doctor not familiar with such cases from practice, but, yet, the only one who has any pretensions at affording relief, takes up the work in view; if he ever has been instructed, he cannot well know less than will be found in the work—if he does know less, he will, most probably, be a poor bone-setter; and will require other books. The author refers him to nearly a dozen of different sources for information—if he can possess, and study these, he will never gain much by looking into the "*Institutes and Practice of Surgery*."

Such being our opinion on the subject of luxation, we shall now proceed to notice doctor Gibson's general observations on the subject; and, also, examine what he has said on luxation of

the thigh. In order that we may not be suspected of garbled quotations, we shall quote those articles from the work entire; this will at the same time serve to show how little space has been allotted to so important a subject.

It is said, page 364, of the aforesaid work, that "the term luxation or dislocation, implies the removal of the head of a bone from its corresponding articulating cavity. To designate the varieties of the accident, other appellations have usually been employed—simple and compound, primitive and consecutive, recent and old, complete and incomplete luxation. By *simple* luxation, is understood a mere removal of the head of the bone, accompanied by laceration of one or more ligaments—by *compound*, the variety of luxation in which an external wound communicates with the cavity of the joint. In *primitive* luxation, the head of the bone continues in the unnatural position which it at first assumed—in *consecutive*, it abandons the first situation and becomes fixed in another. The terms *recent* and *old*, refer merely to the duration of the injury, while *complete* and *incomplete* denote total and partial displacement."

We have no particular object in view in quoting the above paragraph, except that of presenting the chapter from which it is taken entire.

"All the articulations, with few exceptions, (says our author,) are liable to luxation; but the orbicular, on many accounts, are most exposed to such injuries. The ginglymoidal joints on the other hand, are so constructed as to render their displacement, in most instances, extremely difficult. External violence is the most common cause of luxation, though it frequently is produced by muscular action alone; in other instances the displacement is brought about by a preternatural laxity of the ligaments, or a paralytic state of the muscles surrounding the joint. Sometimes the head of a bone is slowly removed from its socket by disease, or by growth of a tumor within the capsule."

We are told that "orbicular joints" are most liable to luxation—and on the other hand, the "ginglymoidal" do not readily yield to external violence. It will be admitted on all hands, that, this is strictly true; but can any one doubt, that every man who is acquainted with the mechanism of these varieties of articulation, will not also be acquainted with the fact, that greater or less liability to displacement will depend in the main upon the *mechanism*. To the anatomist, or scientific practitioner, this is sufficiently familiar; and, therefore, he reads all such common place phraseology without profit. To those who do not understand their mechanism, you may as well talk to them of Hebrew, as of orbicular, and ginglymoidal joints, &c. In a word, the learned will not be instructed; those who are unlearned can only be instructed, by stating the nature of the case, in each kind of luxation, and the proper plan of treatment in each.

It is doubtful, we think, to say the least, whether our author has not spoken incorrectly, when he tells us that luxation, is, "*frequently*, produced by muscular action alone." We have neither seen nor heard of such a case in this country, in a practice of nearly thirty years. We are told that luxations occur from the filling up of the socket of a joint—in other words, that we sometimes see cases of spontaneous luxation. These are surely not included within the "treatment of luxations," and are, therefore, to say the least, wrongly placed.

"Parts recently luxated, when examined by dissection, commonly exhibit the following appearances. Besides laceration of the capsule and ligaments, most recent luxations are accompanied by an effusion of a greater or less quantity of blood in the neighbourhood of the joint, by rupture or extension of tendons and muscular fibres, and by injury of nerves.—However the inflammation, that follows, seldom terminates in suppuration, but slowly subsides, the effused blood is absorbed, and the functions of the injured parts are afterwards in a measure restored. In the mean time the head of the misplaced bone accommodates itself to the new situation, and forms a cup in the cellular membrane, muscle or bone, against which it rests, whilst adventitious ligaments are created from the surrounding cellular tissue, and either unite with the remains of the torn capsule or become fixed to the bone and secure it firmly in its place. After a time some motion is acquired, and the use of the limb may be partially restored."

It is certainly proper that every surgeon should have all the information which is attainable, connected with luxations; and as the consequences, or peculiar states of derangement or injury of parts, to be obtained by dissection, can only be expected in large hospitals, it is very proper that the profession be furnished with information on these points, by those whose opportunity enables them to acquire this kind of knowledge, and, therefore, we think favorably of every such attempt. It seems proper, nevertheless, that we briefly notice some parts of the above paragraph.

The first thing which presents itself as remarkable, is the circumstance of our author professing to give us the appearances which are to be seen upon dissection. Now of course we may in this way obtain a knowledge of the injury done to the capsular, and other ligaments, the formation of artificial joints, sometimes the effusion of lymph, or blood, &c. But how we are to prove by dissection, that the inflammation which follows "*seldom* terminates in suppuration, but slowly subsides, the effused blood is absorbed, and the *functions* of the injured parts are afterwards in a measure restored," we cannot understand.

It is also an important fact, that notwithstanding the presence of lymph, or blood, or both, around a joint recently luxated, still we need not be too anxious about this circumstance, since



it is an acknowledged fact on all hands, that in good habits, and simple luxations, patients recover the use of the joint almost as soon as the bone is reduced. In bad habits this may be far otherwise.

"Luxations are often confounded with other injuries, especially fractures; but from these they may be readily distinguished by want of crepitation; by the peculiar distortion and rigidity of the limb, which, according to the kind of displacement, is either lengthened or shortened, while the head of the bone is so fixed as to be nearly immoveable. Together with these signs, an unnatural prominence may be generally felt in the vicinity of the injured joint, but differing materially from that inequality often observed in fracture."

We consider the above a very good description of the more prominent circumstances connected with luxations—the signs are clearly, and very briefly expressed, but we are constrained to say, that this description is, by no means sufficiently expressive of all the circumstances which may be presented in the occasional peculiarities attending luxations: we shall sometimes meet cases that are complex, and call for especial skill, in finding out their true nature, as well as in effecting a restoration of the parts. But we think it especially remarkable, that our author does not again touch this important part of the subject, in noticing some of the more important luxations—it will, however, be more in place to notice this when we come to look at some *particular luxations*.

The few foregoing paragraphs constitute the whole of doctor Gibson's general observations upon this highly important subject. We feel irresistibly impelled to exclaim, *Ho! ye that thirst after knowledge*, but are content to possess a little, study the work of our author. But those who have carefully read the works of Pott, Desault, Boyer, Astley Cooper, &c., &c., and noticed the difficulties, and the discrepancies to be seen, after all their painstaking, must feel disappointed, when they open the book before us, and find the whole subject disposed of in three or four very small pages. What the necessity, what the intention, what the advantage, what the propriety of attempting thus to *raze* our barque down to a little *fishing smack*?

Having disposed of the subject of general observations, we shall now ask of our *oracle*, what may be said on the "treatment of luxations?" In doing this, we shall write out all that is said on this highly interesting topic.

"Constitutional as well as local means are generally necessary in the reduction of dislocated bones. The former, indeed, often exert greater influence over the action of muscles, (the chief impediment to reduction,) than any mechanical force, however powerful, that can be employed. The

most efficient remedies of this description are bloodletting ad deliquium animi, the warm bath, nauseating emetics, intoxication, &c. Of these, bloodletting is decidedly the most powerful. The practice is said to have been first suggested by Monro the second, but was never until the time of doctor Physick, carried to an extent necessary for complete success. Having derived full advantage from constitutional remedies, which should always precede any mechanical efforts to effect reduction, extension and counter extension may be resorted to. For this purpose the hands of assistants, aided if necessary, by napkins or sheets, should be employed; or pulleys, as they keep up a more steady and effectual extension, may be preferred. It is still a matter of dispute whether the extending force ought to be exerted upon the luxated bone or a remote one. Both expedients, it appears to me, are occasionally necessary; but, as a general practice, I prefer the latter mode, in as much as the muscles about the injured joint are less liable to be stimulated to contraction, whilst by increasing the distance between the luxated part and the extending force, a more powerful lever is procured. As a general rule the counter extending means should at least equal the extending, and both must be applied in such a way as to produce the least possible irritation. To obviate any inconvenience of this kind, the surgeon will often find it necessary to cover the skin with soft buckskin or some similar material. Sir Astley Cooper, to prevent the extending bands from slipping, has suggested the ingenious expedient of confining them to the skin by a wet roller or bandage—the most important original idea, perhaps, contained in his practical work.”

We very decidedly agree with our author when he says, that “bloodletting is decidedly the most powerful” remedy for subduing the constitutional powers, and consequently, the muscles. Indeed, we think that where it is skilfully employed, no auxiliary remedies will be required.—We have strong objections to the deadly nauseating influence of antimony, except we be driven to its employment by extreme necessity; and the warm bath, though free from this objection, is mostly a very inconvenient remedy.—The present writer has seldom employed any other means with a view of reducing muscular strength in luxations, than bloodletting; we, therefore, speak from experience, when we say, it will generally succeed to our wishes if properly used.

What shall we say to the assertion, that *constitutional remedies should always precede any mechanical efforts to effect reduction?* Do we not frequently meet cases of luxation in which it is all important that we replace the bone instantly, or as soon as we can reach the patient—that is, before there be much swelling, and before the muscles become much irritated—a surgeon, competent to the task, being near a patient, even in cases of luxation of the hip-joint, should make immediate efforts, so soon as an assistant or two can be had: if it be the shoulder, it would be his duty to lie down beside the patient, place his heel in the axilla, and thus reduce the bone. Indeed, we differ so entirely

with this practical precept of deferring attempts at reduction, till we have used our "constitutional remedies," that we unhesitatingly advise an opposite course of procedure, as our general rule of practice, well knowing, however, that there are occasional exceptions, more especially in cases in which the surgeon does not see the patient before swelling, irritation, &c., have come on.

It is said, that *it is still a matter of dispute, whether the extending force ought to be exerted upon the luxated bone, or upon a remote one.* We are told, that both are "occasionally necessary"—"but as a general practice, (says our author,) I prefer the latter mode." We consider this a matter of considerable importance—so far as our experience enables us to judge, we think, the most important rule of practice connected with this part of our subject, is, to apply our extending bandages to the bone affected, where we use pulleys; and "to a remote one" where we operate by the hands of assistants. We found this rule upon the following reasons. Boyer, who has written more systematically, and, if we may use the expression, more scientifically than any other writer on luxations, points out clearly the increased power obtained over the muscles concerned in a luxation, by applying our extension to some remote point. Hence it is, that as our forces by hand may be too feeble, we may avail ourselves of such arrangement of mechanism in our apparatus, as will afford us most power; whereas, in cases where we can augment our forces to any amount that may be desirable, by means of pulleys, we will gain much by applying the extension to the affected bone; because this will enable us greatly to facilitate the reduction, by flexing the leg upon the thigh; or the forearm upon the arm; and then, by means of the outer member, rotate the limb. In this way, by a little dexterous manœuvring, we may raise the head of the femur over the head of the acetabulum, or the head of the humerus over the edge of the glenoid cavity as, they respectively arrive at the suitable points. It may be objected that if this peculiar manipulation be useful in one case, it should be used in all.—We answer, that it is only in the more easily reduced cases that we may succeed in the reduction by hand; and, vice versa, where pulleys are wanted, every measure which may be required, or made applicable to the case, must be brought in all its perfection to our aid, or we may be foiled in our efforts at reduction.

*As a general rule, (says the writer in view,) the counter extending means should at least equal the extending.* Is this a lapsus pennæ, a lapsus mentis, or has the author lost sight of the

fact, that when ever one force differs from the other, the patient will move towards the greater? If it be necessary then, that the patient remain fixed in his seat, the forces employed must be equal. What then are we to think of the expression *at least equal*—that is, the *counter extension* must be “at least equal, to the extension” now, since, counter extension is nothing more than a fixed point, a resistance to the extension, and consequently governed *by the extension*; how shall we have counter extension greater than its cause. Our idea is this, if you place a patient with his legs on either side of the bed post, and use the post as the point of resistance while you apply extension, to a dislocated limb, you have a fair example of extension, and counter extension; if you apply a bandage in the perineum, and give it to assistants, with a view of getting them to apply counter extension, whenever they shall use so much force, as to draw the body in the direction of the head, your forces are changed—the counter extension becomes the extension; and, the extension becomes the point of resistance, or counter extension.

“Sir Astley Cooper, (says our author,) to prevent the extending bands from slipping, has suggested the ingenious expedient of confining them to the skin by a *wet* roller or bandage—the most important and original idea, perhaps, contained in his practical work.” We may perhaps differ from doctor Gibson, about the extent to which he would carry the term “original idea.” But there is one point connected with this assertion, if we really understand it, which should not be overlooked—it is simply this, that there is no book extant, in which full, sound, and scientific, explanations and instruction are given, except that of A. Cooper. We mean in luxation of the thigh, more particularly.

This is truly a subject of importance, where pulleys are used with much force. Inattention to this circumstance, sometimes leads to very unpleasant abrasions, contusions, &c., which greatly distress the patient, either by applying the bandages too tight, or by their slipping and peeling the epidermis off as they slip.

“The only general direction necessary to be observed in relation to extension and counter extension, is, that the force be exerted gradually, and kept up for a considerable time, in order to fatigue the muscles and overcome their resistance. If this be well managed, a slight effort in the way of coaptation will generally prove sufficient to restore the bone, under circumstances where sudden and violent force would have failed. Old luxations should be treated upon the principles just laid down, but it may be necessary to persevere in the efforts at reduction for a much longer period than in recent cases, and in addition to the extending forces, to break up by rotary motions of the limb, the adventitious ligaments about the head of

the bone and newly formed socket. Having restored the bone to its former place, it only remains to prevent its subsequent escape, and to procure if possible reunion of the edges of the torn capsule. This may frequently be accomplished by an appropriate bandage and by rest. Compound luxations should be treated upon the same principles as compound fractures."

We would ask here, what is the sum and substance of this paragraph? To whose mind can it convey instruction? Will it sufficiently instruct without consulting other authorities? Can any other authority of modern date be got hold of, that will not more satisfactorily explain the nature of luxations, and the manner of their reduction?

Thus, we are told, that the *only general direction necessary* is to apply our forces *gradually*, and for a long time, so as to fatigue the muscles. That it is necessary to proceed gradually, that is, cautiously in the use of great forces, is most certainly correct; and, that, it will sometimes be necessary to continue our forces for a considerable length of time, is also an important truth. Nevertheless, we are constrained to say, that in the employment of what our author calls *constitutional means*, we would adopt, as our general rule of practice, directly an opposite procedure.

It is proposed that we relax the muscles by inducing syncope—surely not with a view of keeping it up for any great length of time; if it pass away before we have succeeded in the reduction, we shall lose, in a great measure, all the advantage we expected from it. We have found it important, previously to abstracting blood, with a view of inducing syncope, to have all our apparatus and our assistants, properly disposed of, so that, we could speedily avail ourselves of the power of the intended means, during the state of syncope—and, if our patient recovered from this state of extreme relaxation, we desisted, and renewed the means for subduing muscular power.—This is the only way in which we have been enabled to effect our purpose; and again, and again, have we, almost in the twinkling of an eye, reduced a luxation, as our patient dropped into a state of insensibility, from the loss of blood. Our patients awaking as out of a dream, found themselves restored to health. Among such cases we well recollect that of our particular friend, the late doctor Anderson Warfield, who met with a luxation of the shoulder, which resisted the force of three or four strong assistants, and the use of the several apparatus which have often served us in such luxations. Finding that the utmost force which could be impressed by my assistants, with the advantage of a table cloth attached

to the wrist, made no impression whatever on the muscles; and, that, the head of the bone could not, in the slightest degree, be made to approach the glenoid cavity, we resolved upon using the lancet. The assistants being properly instructed, in the management of our apparatus, were desired to exert their strength upon the limb, upon getting the signal for action. Syncope came on after a pretty free bleeding from a large orifice—one powerful effort replaced the bone, while the patient remained wholly unconscious of what was going on—in a moment, so to speak, it was reduced—immediately the doctor recovered his senses, when he received the pleasant intelligence, that all was well: he immediately expressed his surprise, and his gratitude; and proceeded to tell us, that he dreamt during the state of prostration, (the time the bone was replaced,) that he was walking in Market street with an acquaintance. In this case gradual extensor, however, long continued would not have answered so well as the measure employed. Indeed, common sense suggests here, that if syncope is to be useful, we should *reduce* during its existence; and that we must, therefore, use our force speedily—if we wish to subdue the muscles by fatiguing them, we need not employ the expedient of inducing syncope. Still we are aware that the above views are not peculiar to doctor Gibson. We are reminded here of the fact mentioned by Mr. A. Cooper; and we believe, by Mr. Hey also, that they have sometimes reduced in difficult cases, by taking the muscles, or rather the mind of the patient by surprise.

We shall pass over the laconic observations of our author on the subject of reducing old luxations—no one, we are persuaded, will study this subject or found his operations upon what is said in this brief clause, of the paragraph under notice.

With these remarks upon the general principles, and the treatment in general in luxations, we shall proceed to examine the observations, the diagnosis, prognosis, and treatment of luxation of the thigh. Before advancing further, we ask the reader's attention to the singular fact, that our author has condensed the whole of his general principles and treatment of luxations, into 119 lines of pica, open print; about equal in amount to two and a half pages of the type, in which we announce this fact.

"The thigh bone is more subject to fracture than luxation, though the latter is by no means uncommon. It may take place in four directions—upwards and outwards on the dorsum of the ilium, downwards and inwards into the foramen ovale, upwards and forwards on the pubis, and backwards into the ischiatic notch. The first two are the most frequent, and the latter extremely rare."

We believe that luxation of the thigh is by no means so un-

common as to excuse the profession from making themselves intimately acquainted with the subject, but fortunately it is much more uncommon than the author before us seems to intimate. In support of this assertion, we may refer to the fact mentioned by A. Cooper, that the celebrated Mr. Sharp, after practising many years in London doubted whether such an accident ever occurred; and in the city of Baltimore with a population of eighty thousand we recollect but two or three cases of this luxation within the last sixteen years.

"Luxation upwards and outwards is generally produced by a fall upon the foot or knee, while the thigh is directed forwards and obliquely inwards. The round ligament and the upper portion of the capsular ligament being torn, the head of the bone escapes, and lodges first upon the convex surface of the ilium, but soon changes its position, and sinks into the external iliac fossa, where it afterwards remains. A prominence near the superior spinous process of the ilium, formed by the great trochanter, together with a shortening of the limb and an inclination of the foot inwards, are sufficiently characteristic of the nature of the accident."

The man of experience will, generally, find but little difficulty in recognizing luxation of the hip upwards and backwards, but the above instruction is not designed for such, but for those who have yet to acquire knowledge. Whether such will find the above few diagnostic signs, "sufficiently characteristic of the nature of the accident," we much doubt. That we are correct in this opinion, the following remarkable fact, reported by A. Cooper, will sufficiently prove; and it must be acknowledged, that in very muscular and refractory patients, the young and inexperienced surgeon sometimes finds much difficulty, nay, have we not seen men of the first distinction disagree on these points? witness the case of doctor Warren.

"In a luxation of the os femoris, (says Mr. A. Cooper,) which still remains unreduced, a consultation was held upon the nature of the injury, and after long consideration, this report was made by one of the surgeons—well, sir, thank God, we are all agreed, that there is no dislocation." Now we must either believe the London surgeons in consultation, to have been very ignorant, or that this luxation is sometimes involved in obscurity.

Mr. Cooper goes on further to say, "that a considerable share of anatomical knowledge is required to detect the nature of these accidents, as well as to suggest the best means of reduction." "Even our hospital surgeons who have neglected their anatomy, mistake these accidents, for *I have known the pulleys applied to an hospital patient*, in a case of fracture of the neck of the thigh bone, which had been mistaken for a dislocation."—Boyer says it would seem easy to distinguish between luxation

of the thigh and fracture of its neck; yet Verduc, Ambrose Paré, and J. L. Petit, acknowledged that they confounded them."

It is true doctor Gibson refers his readers to Desault, Boyer, A. Cooper, Dorsey, Pott, &c. and, it cannot be doubted, that those who are well acquainted with the lessons taught in those works, provided they are well acquainted with the anatomy concerned, will be qualified to enter upon the field of practical observation; but if they are thus prepared, what will they want with the "Institutes and practice of surgery?" if they are not so prepared, wo betide those who fall into their hands. We are forcibly reminded here of the skeletons of the mastodon and the mouse! we leave the reader to make the application.

"Luxation of the femur downwards and inwards, differs materially from the foregoing. The limb is lengthened by two or three inches, the foot turned outwards, the great trochanter removed from the superior spinous process of the ilium; and the head of the bone, especially in thin subjects, distinctly felt at the foramen ovale, or upper part of the thigh. This accident is produced by abduction of the thigh, or by violence applied while the thighs are extensively separated from each other. The round as well as the capsular ligament, is generally torn, and the head of the bone rests upon the obturator externus muscle."

Perhaps the best opinion which we could express upon the above paragraph, would be to say with the author, that those who seek for information should consult Desault, Boyer, Cooper, &c. But we observe a point or two sufficiently curious to deserve a slight notice. The head of the bone is to be felt at the "foramen ovale or upper part of the thigh!" does the foramen form a part of the thigh? So far is this from being so simple a matter, or that the head of the bone is so "distinctly" to be felt that we have seen two cases where fracture of the os innominatum was mistaken by respectable physicians for this luxation, and another in which this fracture was mistaken for fracture of the neck of the femur.

"Although luxation on the pubis is seldom met with, the exact situation of the head of the bone, and the manner in which the accident is produced, are well known. A hard tumor may be felt above Poupart's ligament, on the outside of the femoral vessels; the limb is shortened about an inch; the foot is turned outwards, and the trochanter major placed in front of the anterior superior spinous process of the ilium. This species of luxation must invariably happen from force applied while the limb is carried backwards and fixed, and from the body being at the same time, thrown off its balance directed backwards. Doctor Physick once met with a luxation of the femur on the pubis, in which the affected limb, instead of being shorter, was somewhat longer than the sound one."

It is a little remarkable that we are told that the "*exact situation of the head of the bone*" in the luxation upwards and for-



wards is known—and in the same paragraph we are told that doctor Physick once saw a dislocation of this kind in which the limb was an inch longer than usual. And we would ask what information we have to assure us that the head of the bone is always found outside of the femoral vessels? Boyer tells us he met with three cases of this variety of luxation, and that many are on record—"that the head of the femur is thrown upon the horizontal branch of the pubis, under the psoas and iliac muscles; the femoral vessels, and femoral nerve are pushed inward, perhaps a little raised by the head of the femur." It does not appear, therefore, that the cases of Boyer were attended with the circumstance of the "femoral vessels" being so clearly on the inside of the head of the bone as doctor G. would induce his readers to suppose. And the reader should not forget the risk of these vessels, and the nerves suffering from the pressure which they have to sustain in these cases. We are told, says Boyer, by J. L. Petit, that if this luxation be not immediately reduced, the limb is liable to swelling and numbness, (see Boyer by Stevens, vol. 2, page 290.

"When the head of the os femoris is forced backwards and lodged in the ischiatic notch, the limb will be found shorter by half an inch or an inch, than that of the opposite side, and the foot slightly inclined inwards. Owing to the depth of the notch, the head of the bone can seldom be felt. To produce this kind of luxation, the force should be applied while the thigh is bent upon the abdomen, or the body is thrown forward upon the thigh."

For information on this point, the reader must turn to the Surgical Essays of Cooper and Travers—this is the only work in which this accident is satisfactorily explained. The opinion appears to have been very prevalent, that luxation into the *notch* is *downwards*.—Thus Boyer says there are four varieties of luxation of the thigh, "upwards and outwards, downwards and inwards, upwards and forwards, and downwards and backwards—the last can only take place secondarily." He afterwards says, that he does not think this ever occurs as a primitive luxation, but may occur after dislocation, upwards and backwards. It must appear obvious upon a moment's reflection, that this luxation, which is the most difficult of all to discover, must also be the most difficult to reduce; and, should, therefore, receive our most particular attention. The concluding clause of the above paragraph is so truly remarkable, that we shall present it to our readers, as a specimen of inattention. To *produce* this kind of luxation, the force *should* be applied while the thigh is bent upon the abdomen." Now if any one *should* wish to produce this luxation, let him remember that "the force *should*

be applied while the thigh is bent upon the abdomen." But surely no one will think that he *should apply any such force.*

*"Treatment of luxation of the thigh.*—The muscles surrounding the hip and thigh bone, are so large and powerful, that the surgeon must expect to encounter very considerable resistance in his efforts towards reduction. Whatever may happen to be the direction of the displacement, with little variation, the same means must be employed. In addition to the general treatment formerly recommended for luxations, and which will be found particularly necessary in luxations of the thigh, very powerful but gradual, and long continued extension, and counter extension must be resorted to as soon after the accident as possible."

If we understand the substance of this paragraph, it amounts to this, that there is very little to do other than to place the patient in the proper position, and pull gradually at the limb, till it recovers its natural situation, first reducing the system by bloodletting, &c. We have no hesitation in saying, that he who proceeds to the business of reducing dislocation of the thigh, with such views, will find himself greatly disappointed in his expectations. He must be convinced of this, by looking into A. Cooper, Boyer, &c., &c.

"The patient being stretched upon a table, covered with a mattress or blankets, the middle of a large sheet folded diagonally is placed in the perineum of the sound side, and its twisted ends carried before and behind the pelvis along the body and beyond the shoulders of the patient, are secured to a post, a staple in the wall, or any unyielding fixture. Another sheet, folded in a similar way, is fixed upon the spine of the ilium, and its ends being carried across the pelvis are given in charge to one or more assistants. Lastly, a piece of buckskin is applied to the injured limb, just below the knee; over this is placed the centre of two towels, one on the outside, the other on the inside, parallel with the limb, to which they are secured by several turns of a wet roller. The four ends of the towels are then tied together, in the loop thus formed, the hook of a pulley is fixed, and its opposite end fixed in the wall."

We must decidedly object to the plan advised above, of placing the counter extending bandage on the sound side of the perineum. It will be found in every species of dislocation, that the most important circumstance connected with the mechanism of the parts, with the apparatus, and the application of forces for reduction is, that of effectually fixing the bone having the socket, into which we wish to replace the dislocated head. We have seen repeated failures in attempts at reducing the shoulder, owing to want of attention to fixing the scapula—and we are persuaded that most of the difficulties which have been so frequently seen, in this luxation, were owing to this defect in the apparatus. Hence the great advantage of using the ring around the arm, so as to fix the scapula immoveably; and, hence too, the advantage of using the heel, placed in the axilla,

so as to keep the scapula off with the same degree of force that we extend the arm.

It is now pretty well understood, that no attempts should be made at reduction in cases of luxation of the vertebræ. We have taught in our lectures, that the difficulty here, is partly owing to the peculiar mechanism of the part; but, in many cases, where the injury to the structures is not too great, attempts at reduction might not only be made with safety, but result in success, provided we could fix the bone, next to that upon which we wish to operate—but since the adjacent bones are more moveable than those locked in the luxation, our forces will be expended upon the more moveable; and incur the risk of doing mischief, to parts not involved in the injury. We would assure the young surgeon, that so far as our experience extends, much will always depend upon fixing the socket, nay, more, if it is not fixed, you will most generally be foiled; *never, therefore, of choice, apply your counter extending bandage to any other than the nearest point to the socket, to which you can have access.*—We hold this to be the best settled maxim, connected with the subject of *reduction*.

The author of the *Institutes and Practice of Surgery* having fallen into a singular dilemma, and involved his readers in the same, we shall endeavour en passant to correct the mistake. It is said that “lastly, a piece of buckskin is to be applied to the injured limb, *just below the knee, &c.*” See page 389, vol. 1,—in the succeeding page it is said while the extension is kept up, “the surgeon at the same time taking hold of the leg with both hands, bends it upon the thigh nearly at a right angle, and rotates it in different directions.” How, let me ask, is this to be done? bend the limb above the point at which the extending bandage is applied? Why not apply the bandage above the knee, as directed by Mr. A. Cooper? We can imagine that if the bandage was applied just below the joint, and the limb bent before the pulleys were put into play, we might, perhaps, resist the extending forces, and keep the leg bent; but what should we gain by such a plan of procedure? If the surgeon is to oppose such a force, for “two or three hours,” he will have an arduous task, to say the least!

“By continuing these efforts gradually and for a considerable length of time, in some instances two or three hours we can scarcely fail to restore the head of the bone, provided it has not been displaced for many weeks or months, in which case success will hardly be possible under any treatment.”

It seems, judging from the above paragraph, to be the opinion of our author, that skill consists principally in *gradual, and*

*long pulling.* Now, agreeably, to our experience, both by observation and reading, it is especially essential, that the apparatus, &c., be precisely suited to the case, or you may pull till dooms-day, and not succeed in *reduction*. There is, indeed, a peculiar *tact*, which can only be acquired by witnessing the varied operations of some skilful surgeon, or by the most careful attention to observation in practice, aided by studying the more scientific authorities on the subject.

"It must be particularly remembered—that the direction of the extension and counter extension should vary according to the direction of the displacement, or the variety of luxation that may exist. In some cases it may be found necessary to place the counter extending band in the perineum of the injured side, but in general, the mode recommended should be preferred, inasmuch as the muscles about the dislocated bone are thus left free, and will not be stimulated to resistance."

What is the young surgeon to do with such instruction as the above? how shall he learn when and where "to vary according to the direction of the displacement?" We have seen, in the same page of doctor Gibson's work, that by applying extension and counter extension, "for two or three hours, we can scarcely fail to restore the head of the bone." He who knows how to vary according to the direction of the displacement, or the variety of the luxation that may happen to exist will be already informed; if he be not thus informed, the book before us will never make him what the vulgar call a *bone-setter*.

We have now finished our examination in relation to luxation—we have conscientiously done our duty, and we shall conclude by repeating, that the practical part of this work contains much of the more important improvement in modern surgery; but as a book of reference for the practitioner, in time of hurry, it is totally inadequate to his wants. The work throughout, bears marks of haste, carelessness, and a studied brevity, which render it far inferior to many other works, while it will not supply the place of any other. We shall conclude with a single question. What would we say of such a production coming from Europe?

*A Letter to the Hon. Isaac Parker, Chief Justice of the Supreme Court of Massachusetts, containing Remarks on the Dislocation of the Hip-Joint, &c.* By JOHN C. WARREN, M. D., Professor of Anatomy and Surgery in Harvard University. Cambridge, 1826. p. 142.

**DISLOCATION** of the Hip-Joint is an injury which demands more correct anatomical and diagnostic knowledge, than most other accidents that present themselves to the notice of the surgeon. The depth of the joint—the structure of the surrounding tissues—the configuration of the bones—the number and variety of the dislocations and fractures, all conspire to place these cases amongst the most puzzling and perplexing in the practice of surgery.

The chief difficulty occurs in attempting to distinguish between fracture and dislocation; and it is not uncommon for the subjects of fracture, to be tormented by repeated and ineffectual efforts, to reduce dislocations which do not exist.

The infrequency of these injuries is one cause of such mistakes. Surgeons not being often called to treat them, omit obtaining the requisite information; or if acquired, suffer it to escape from the mind. Indeed, unless our knowledge of any subject, and more especially those that are abstruse and complicated, is frequently revived by observation, reading and reflection, it is astonishing how soon our ideas become vague and obscure.

The absence then, of frequent opportunities for observation, renders it the more important, that our descriptions of symptoms and methods of treatment, should be precise and accurate; so as to admit of easy recollection and application, by the junior members of the profession.

The letter to Chief Justice Parker was penned, in consequence of a case of dislocated hip-joint, in which doctor Warren had been consulted, being made the subject of a civil suit—during the progress of which, unjustifiable liberties, as doctor W. supposed, were taken with his own and his friends' reputation.

The facts were as follows—Charles Lowell, about thirty years of age, rather muscular, on the 7th of September, was riding a restif horse, which reared and fell backward upon the rider; the force of the animal's fall being received upon his left thigh. On rising, he found he had lost the power of using the left leg. Two practitioners were procured, who declared the injury to

be a dislocation of the hip-joint, and ineffectual attempts were made to reduce it.

In the first operation, the patient being laid lengthwise in a bed, "a ball of cloth was placed between the thighs, the injured limb was carried out, and the ball served as a fulcrum for the leg to pry over, and to be made use of as a lever." In a subsequent operation, Lowell was laid across the bed, a sheet was placed around the sound limb, a towel tied round the knee of the lame one, and several assistants abducted the thighs violently; this motion being alternated with adduction. After continuing this for ten or fifteen minutes, the limb was declared to be well set.

Lowell however, continued a cripple; and in the succeeding December applied to doctor Warren. The doctor also failing to effect reduction, an action for damages was brought against Faxon and Hawks, the surgeons first called. The jury allowed damages to the amount of one thousand nine hundred dollars. A second trial was obtained, when the award was one hundred dollars. On a third hearing, the jury acquitted Faxon; and one of the jurymen being taken sick, the plaintiff and Hawks agreed to withdraw the suit, without costs on either side.

We purpose noticing only the surgery of the case.

Doctor Warren appears to have ascertained very satisfactorily that he had before him an example of that variety of luxation which Sir Astley Cooper says he has not seen in the course of his extensive practice during thirty years; and doubts whether it ever occurs. He is inclined to believe that some anatomical error must have originated the opinion, that the limb is lengthened in the dislocation backwards; inasmuch as the head of the bone is described, as being received into the ischiatic notch; "but this notch is, in the natural position of the pelvis, above the level of the line drawn through the middle of the acetabulum; and hence it is, that the leg is shorter, not longer, when the bone is dislocated into the ischiatic notch." Boyer says "he does not think that the femur can ever be luxated downward and backward; but it may be carried in that direction after a luxation upward and outward; (on the *dorsum ili* he means) that is to say, the head of the femur, thrown in the first instance, upon the external iliac fossa, may, if the thigh be afterwards abducted by any cause whatever, slip down before the upper part of the ischiatic notch; but it can never reach the junction of the ilium and ischium."

Boyer here falls into the anatomical error to which Mr. Cooper refers; he believes that the head of the femur can be forced

only into the *upper* part of the ischiatic notch; and that only consecutively; and he calls this a luxation "downwards and backwards."

Doctor Warren's case, proves that Mr. Cooper and Baron Boyer are both mistaken in supposing, that the head of the bone cannot be driven downwards and backwards, upon the lower part of the notch—or, rather upon the smaller notch, formed below the short sacro sciatic ligament, which passes from the spinous process of the ischium to the sacrum; indeed, there is no reason why the head of the femur, may not be dislocated at any point of the circle of the acetabulum, if the force is applied in the proper direction; and lodge upon any flat or hollow surface sufficiently extensive to receive and retain it.

From the representation given in Plate I., doctor Warren appears to have supposed, that the head of the bone lay upon the spinous process of the ischium, and the short sacro sciatic ligament—judging by the elongation, "about three inches" we should rather think it must have been in the inferior or smaller notch, between the two ligaments—the long and short sacro sciatic. The spinous process is but little below the level of the centre of the acetabulum. The thigh was bent forward, by the *psoas magnus* and *iliacus internus* muscles being rendered more active than natural.

We are told "that a dislocation downward may be either forward or backward." "If forward, we may expect to find the round head of the thigh bone in front of the socket, and near the upper part of the thigh; the limb being at the same time much turned out." Now, is it true, that in dislocation into the foramen ovale, the head of the bone can be felt; we imagine not; unless in very thin persons. Again, what is meant by "the limb being much turned out;" is it abduction, or rotation outwards; we suppose the latter, then is rotation of the limb outwards, a symptom of dislocation into the foramen ovale; we think not; lengthening of the limb; great abduction; and flexion on the pelvis, are the symptoms of this accident; the change of situation alters the action of the muscles so much, that the limb varies but little from the straight position.

In a luxation into the inferior ischiatic notch, so many of the rotators outwards are put greatly upon the stretch, that it is not surprising doctor W. did not find the limb rotated inwards, as in the luxation into the upper notch; where the limb being shortened, and the muscles relaxed, it takes that direction, which the configuration of the bones gives it.

Believing as we do, that doctor W. was correct in his diag-

nosis, we were not a little surprised at his manner of attempting the reduction.

"The patient was placed on a table covered with blankets, on his right side, and carefully fixed to the table by bands passed round the pelvis. Other bands were passed between the thighs, and secured to the wall of the apartment. Thus the pelvis, being immovable in the transverse and in the longitudinal directions, was made the "fixed point," on which to operate. The powers designed to extend the limb were then applied in the two directions opposite to those of the forces meant to keep the body steady. Soft substances were placed around the middle of the thigh, and about them a strong band, to which were attached the dislocation pulleys, in such a manner as to draw at right angles to the body; while other cords were fixed above the knee, to draw the limb downwards in a direction opposed to the cords passed between the thighs. These last were of course so situated, the patient being on his side, that the extension downwards might be forwards or backwards, and were entrusted to the hands of as many individuals as were required. The necessary articles being arranged, the longitudinal force was put in operation, by the hands of the assistants, and the lateral force by the pulleys, both of them in the most gradual manner, so as not to excite the muscles to contract by sudden jerks; but by a steady long continued force, gradually to exhaust their energy, and overcome their resistance to reduction. While this was doing, I occasionally examined the situation of the head of the thigh bone, placed my hand thereon, and felt its movements, produced by the extending forces. I also requested some one or more of the consulting physicians to feel the head of the bone, with the intention of ascertaining whether its motions were such as to encourage us with the hope of its being approximated to its socket; and they did one or more, thus examine and recognize the movement of this part, with an expression of their opinion that the change of position was not considerable, nor sufficient to lead us to believe, that the bone would be reduced. When the extension had been made for some time; I seized the extremity of the limb, and operating with it as a lever, while the lateral force was still acting, made strong movements of the limb, with the intention of breaking it from its situation, by destroying its newly formed adhesions of cellular membrane. Aware that dislocations had been often reduced, in a manner the most opposed to that expected, even after judicious and scientific means had been tried in vain, I was studious that no practicable mode of operating should be



omitted. The direction given to the limb was therefore varied in every possible manner; and this practice I adopted with more decision, from reflecting that if the limb was not restored to its place, yet the contraction of the muscles would be partially overcome by this process, the motions of the limb subsequently increased, and the condition of the patient improved. I often questioned the patient as to the degree of suffering, and on his declining any complaint, increased the application of force. After this had been continued an hour or more, with such changes as circumstances suggested, the patient appeared to be satisfied that the reduction was impracticable, and agreed to a discontinuance of the operation. The consulting physicians, being also of opinion that every warrantable effort had been made, advised to forbear any further attempt. At the time the force was about to be removed, I put in practice a recommendation, made I think by Sir A. Cooper, for a dislocation backwards, and which I had employed in a successful manner in a former case, of iliac dislocation; namely, to pass a round towel, called by us a roller, between the thighs of the patient, to throw it over my shoulders, and then make an effort to raise the upper part of the bone, while the foot was carried inwards to the other. This affords a mode of operating in a very powerful manner. I found it not more successful than the other means employed, and therefore desisted from further trials."

The head of the bone was below and behind its socket; consequently, the indications were, to move it forwards and upwards. Where then the advantage or propriety of longitudinal extension? Doctor W. attempts to explain this seeming incongruity, by telling us in a note, "that when a bone is thrown out of its socket, some of the muscles are overstrained, and draw the limb towards them, until it hitches or is engaged somewhere, and these muscles confine it in its new situation, till their contraction is overpowered. The object of the application of force in a longitudinal direction, in such cases, is not to make the limb permanently longer, but to disengage it, so that it may afterwards be drawn or pushed into its natural place; a change that would be produced in this case, by the resisting muscles themselves, provided the bone was previously disengaged." We must then inquire, whether the head of the bone was hitched against any thing, which would prevent it from being moved towards its natural place. We apprehend not. An examination of the parts will show, that in moving towards the acetabulum, it had a smooth and nearly level surface to traverse, till it came to the margin of that cavity; so that on the doctor's own principle, longitudinal extension was un-

necessary here. Farther, admitting that the head of the bone had been hitched against something, from which it was necessary to extricate it, we do not believe, that muscles which had been in a state of permanent extension during three months, would by a rapid contraction reduce the luxation. They would become accustomed to this new condition, and be susceptible only of that gradual shortening common to all muscles.

But admitting that the head of the bone was hitched against something, and that the muscles still retained the power of contracting suddenly, and assisting in the reduction, after the removal of this obstacle, it is not a little strange, that doctor W. should conduct his operation, in the best possible way to counteract and destroy this power. He tells us, that the longitudinal extension, as well as the lateral, was "put in operation in the most gradual manner, so as not to excite the muscles to contract by sudden jerks; but by a steady, long continued force, gradually to exhaust their energy, and overcome the resistance to reduction." Thus his longitudinal extension is to effect two diametrically opposite purposes. It is to unhitch the head of the bone, and afford the muscles an opportunity of exerting their energy, in accomplishing the reduction; and at the same time exhaust their energy, and overcome their resistance to reduction. We apprehend the muscles will have serious objections against contracting, after they have been forcibly deprived of their contractile energy; unless good and sufficient reasons can be given why they ought.

At the same time that the longitudinal extension was going on, lateral force was applied by means of the pulleys. The patient lying upon his right side, this lateral force was at a right angle with the body. While these two forces were in operation, doctor W. tells us, that he occasionally examined the situation of the head of the thigh bone, and felt the movements produced by the extending forces. He also requested some one or more of the consulting physicians to feel the head of the bone, with the intention of ascertaining whether its motions were such as to encourage them with the hope of its being approximated to its socket; and they expressed their opinion, that the change of position was not considerable, nor sufficient to lead them to believe that the bone would be reduced.

Taking into consideration, that the head of the bone is behind and below the acetabulum, and that one power is employed in drawing it from its socket, longitudinally, and another transversely, it is not at all surprising, that they could not perceive it

approach its natural situation. Had any approximation been observed, it would have been absolutely miraculous.

When the extension had been made for some time, doctor W. seized the extremity of the limb, and operating with it as a lever, while the lateral force was still acting, made strong movements of the limb, with the intention of breaking it from its situation. Aware that dislocations had been often reduced, in a manner the most opposed to that expected; even after judicious and scientific means had been tried in vain, he was studious that no practical mode of operating should be omitted, and the direction given to the limb was therefore varied in every possible manner.

In order to judge correctly of the probability of the luxation being reduced by these diversified motions, we must remember, that the head of the bone is some distance behind the acetabulum, and is drawn off by a force applied at right angles with the body; this force being still continued; that it is also so far below the acetabulum as to lengthen the limb about three inches; and that the energy of the muscles, which *ought* to draw it upwards, has been exhausted by longitudinal extension.

Under these circumstances we do not perceive the least probability of reduction. The pulleys making lateral extension, act as a fulcrum to move the head of the bone only in the lateral direction; not forwards towards its socket; so that carrying the limb forwards or backwards, there being no fulcrum for the lever to act upon, in that direction, only served to move the head of the bone in its then situation. Besides, could the head of the bone, by possibility have been thrown forward, it would have struck below the acetabulum; and there was no reason for expecting it to be drawn suddenly into its place, as if it was a recent luxation.

The same remarks are applicable to the last attempt, with the roller; it is only a different mode of employing lateral extension.

We would treat a case of this description, on the principles recommended by Sir A. Cooper, for the management of the dislocation into the foramen ovale. The patient should be laid upon his face on a table; the pelvis fixed by a band passing laterally from the injured towards the sound side, to a post or the wall; another band should be put round the upper part of the thigh, to which the compound pulley should be attached, and passing off laterally and horizontally, be also fastened to a post; the pulley being sufficiently tightened, the limb should be taken hold of and drawn towards the opposite side of the body, thus making a fulcrum of the band around the thigh, for the long lever of the limb to act upon; by which

means the head of the bone would be forced towards the acetabulum; and if the muscles did not draw it into the socket, a small degree of force pushing it upwards, would complete the reduction.

A great authority in Surgery has given it as his opinion, that it is imprudent to attempt to reduce a dislocated hip-joint longer than eight weeks after the accident. We are disposed to think that in relation to this point, a distinction should be made between those luxations of the hip in which the limb is shortened, and those in which it is lengthened. In the former, so much force would be required to elongate the numerous strong muscles passing from the pelvis to the leg, that excessive irritation must ensue. The stretching of the arteries, veins and nerves, after remaining so long in the contracted state, is full of danger. The case is different in the dislocation into the foramen ovale, and the inferior ischiatic notch; only a few small muscles require to be greatly stretched; and the laceration of some of their fibres, would most likely not be followed by injurious effects.

We think therefore that doctor W. was justifiable in attempting the reduction so far as time was concerned.

In the course of the suits a deposition was brought into court, by the defendants, represented as coming from a surgeon of respectability, by doctor Warren, who does not give the name; which contains some strange surgical opinions, and is not underserving of notice.

This gentleman, after a critical examination, said, that the thigh bone was not dislocated. "From the nature of the injury, he remarks, "it could hardly be possible that the hip should be luxated. A fall on the hip with the weight of a horse upon it, would be likely to break the bones of the pelvis, and might drive the head of the bone through the bottom of the socket, but could not dislocate the joint; and in my opinion, if there is any derangement of the bones, it is a fracture and not a dislocation." Now it is obvious, that an opinion founded upon data so uncertain, as the variety of possible consequences, of a horse falling back upon his rider, is totally worthless. It is manifestly impossible to conjecture what may be the nature and extent of the injury from such a cause; you might as well attempt to calculate with mathematical certainty, the amount and direction of the force employed to produce the injury; you might as well endeavour to discover, whether it was the fall of the horse, or his struggles in rising, that caused it.

But few cases of fracture of the bones of the pelvis have been

recorded. Like other fractures it is accompanied by more or less shortening of the leg. Whenever the continuity of bones having muscles attached to them is destroyed, there is a natural tendency in the muscles to approximate their origins and insertions. In doctor W's case the limb was lengthened.

We will not deny the possibility of a fall upon the trochanter major, driving the head of the bone through the bottom of the socket; but we believe the chances are as infinity to one, that the cervix will be fractured. Besides, if it did happen, it would be a fatal injury, and accompanied by symptoms entirely different.

The deponent proceeds: "as for the apparent lengthening of the affected limb, I think that is owing to the preternatural contraction and relaxation of the muscles situated about the hips; and is made to appear so by the twisting of the bones of the pelvis on the spine. Any person, when sitting in a chair, can, by an exertion of the muscles, make one knee project beyond the other, as much as Lowell's did when I saw him."

Here we have an attempted explanation of the lengthening of the limb. First it is owing to a preternatural contraction and relaxation of the muscles situated about the hips. We take it for granted, that the deponent means not only that different muscles are contracted, from those that are relaxed; but that by using the plural "hips," he means those of opposite sides. Then those of the sound side must be contracted, and those of the injured side relaxed. It is not easy to perceive what could cause this state of things—and if it did exist, how it could produce the effect ascribed to it. It is evident that an altered relation of the spine and pelvis is referred to. He speaks of a twisting of the bones of the pelvis on the spine; and illustrates it by the power which we possess, of making the knee a fixed point when seated on a chair, and drawing the same side of the pelvis towards it. It is true we have this power; inasmuch as the voluntary muscles can be made to draw either towards their origin or insertion, according as one or the other happens to be most firmly fixed. It is also true, that, a person being seated, with the trunk of the body at right angles with the thighs, there will be nothing more than a twisting of the pelvis on the spine, in the act of drawing one knee below the other. But this does not occur when one limb is rendered longer than the other, the individual being in the standing or horizontal position. In these postures we will have, not a twisting, but a drawing down of one side of the pelvis, while the other is drawn up; and the in-

tervertebral substance will be compressed on one side and made thin; of course becoming thicker on the other. This condition of parts, however, cannot be brought about by the "preternatural contraction and relaxation of the muscles situated about the hips"—meaning those that pass from the pelvis to the femur—the glutei, &c.; they can only move the thigh and pelvis upon each other, except in the case of the twisting of the pelvis on the spine, when we are seated; but one side of the pelvis can be drawn up by the muscles passing from the thorax to the ilium, viz: the abdominal muscles, the quadratus lumborum, &c. One side of the pelvis can also be drawn down, by hanging a weight to it; thus in the case of a person using a crutch, and allowing one leg to be suspended by the hip joint, its weight will gradually depress that side. It is not however probable, that even a tyro would mistake this for the lengthening of a limb from dislocation. The position of the pelvis would certainly be examined, when comparing the length of the limbs, and the body laid straight.

The deponent apparently having some misgivings about the solidity of this explanation, throws in an alias. "The same lengthening of the limb takes place in a disease of the hip, called the hip disease, which partakes of the nature of white swelling, where no external violence has been received." No doubt he is correct in saying, that the limb is elongated during the progress of hip joint disease; but we cannot discover another important symptom, common to the two cases. In the one, the leg is crippled by an accident; attempts are made to reduce what is supposed to be a dislocation; three months after, still greater violence is inflicted, which is repeated once or twice within a few weeks; and we hear nothing of symptoms of inflammation about the joint; such as pain, swelling, suppuration, hectic fever. In the other, an inflammation of the joint with all the accompanying symptoms, making slow but sure progress, and certain to be greatly aggravated and expedited, by rough handling, make so marked a distinction, that it is difficult to imagine how the two affections could be for a moment associated in the mind of a surgeon, as bearing a resemblance.

Another view is then taken of injuries of the hip joint. "It is difficult to determine in case of injuries of the hip precisely, what the injury of the bones is; but it has frequently happened, within my knowledge, that by a fall directly on the hip joint, though the bone was not dislocated, as was evident by the natural position of the foot and limb generally, and from its being moved by the hand of the surgeon in all directions, yet the pa-

tient has never recovered from his lameness; and in several instances they have never been able to walk afterwards."

Reference is doubtless here made to examples of fracture of the cervix femoris. Doctor Warren admits the facts as above stated, and accounts for the absence of the symptoms of fracture, by supposing the injury to be within the capsular ligament, which remains sound. "When the capsule is torn through at the time of the fracture, the ordinary phenomena of shortening, &c. present themselves at first," says doctor W. We are disposed to question the correctness of the observations in the above cases. We do not believe that the integrity of the capsular ligament will prevent shortening and eversion of the limb. It is true that the eversion does not take place immediately. The long muscles passing from the pelvis to the limb, instantly begin to shorten it; and the rotators are thrown out of action for some time; but as soon as they have shortened themselves, and become accommodated to the new state of things, they turn the toes out; the rotators outwards having more power than those that invert the limb. The fact of the eversion not occurring immediately, proves the incorrectness of the opinion, that it arises "from the weight of the foot acting on a long lever." Instances are now and then met with, but they are exceedingly rare, in which there are shortening of the leg, and inversion of the toes. This exception to the symptoms usually presented by fracture of the cervix femoris, within the capsular ligament, is very remarkable. The shortening and eversion are easily explicable. The inversion, in opposition to the numerous and powerful rotators outwards, is not a little puzzling.

We have thought it might perhaps be accounted for by supposing the fracture to be near the head of the bone; thus leaving a long cervix attached to the shaft; this being drawn up against the gluteus medius; the anterior fibres of which, pass from the anterior superior spinous process and crista of the ilium, to the upper part of the trochanter major, it might be irritated, and turn the toes inwards, before the rotators outwards had time to prepare themselves for exerting the necessary power to evert the limb. The leg having assumed this position, it would be impossible for the unaided power of the rotators outwards, to evert it, in opposition to the action of the gluteus medius, and other rotators inwards. The long cervix, would also assist in retaining it in this position; as in the case of dislocation on the dorsum ilii.

The reason why crepitus cannot be felt in fracture of the cervix femoris inside of the capsular ligament, is not, that the cap-

sular ligament is still entire, as doctor Warren believes; but because the shortening of the limb, draws the lower portion of the slender cervix above the upper. If the limb is drawn down, so as to bring the fractured extremities together, and is then rotated, crepitus will be felt. It should be remembered, however, that after the muscles have had sufficient time to contract firmly, the force of one man will not accomplish this; nor indeed any force short of that which the pulleys exert; consequently crepitus, in many cases cannot be felt.

That a fracture of the cervix femoris has its peculiar symptoms is consistent both with reason and observation; and if they are not discovered, at least so far as to distinguish it from a mere contusion, it can only be ascribed to the ignorance of the surgeon.

Another opinion of the said deponent is this. "I should not think that a hip joint, having been out of place six or even eight weeks, would render it impossible to reduce. It might even be a more favourable time for the operation than immediately after the accident, especially if the soft parts at first were much bruised and swollen."

In what school has surgery of this description been taught? We thought that no principle was better established, than that the longer time the muscles were allowed for contraction, the more difficulty would be experienced in their extension; and in our simplicity we had supposed, that the formation of new attachments would present some little obstacle; leaving out of the question, such trifling matters as the risk of lacerating the arteries, veins or nerves.

He farther observes. "I do not think that the mechanical powers, such as the wheel and axle, or the pulleys, are necessary to reduce a dislocated hip, or any other dislocation. They have sometimes been used with effect, but they have oftener been injurious; and what can be effected with them, can be effected without them. It is not the quantum of force which reduces dislocated bones, so much as it is the direction of the force, and this can be given by the hand of skill better than by the pulleys, &c. In reducing the hip joint it cannot be done by direct pulling; but we take advantage of the thigh bone as a lever to move the head of the bone from the place where it may be lodged, and bring it into its former situation. In some cases the fulcrum is some of the bones of the pelvis; in others we have to supply it by some external power."

Every surgeon will agree with the deponent, that it is not force unskilfully applied which is to reduce luxations. "The



hand of skill" is unquestionably useful. But he does not surely mean, that the hands of the assistants whom he employs to apply that amount of force which he may think the case demands, constitute "the hand of skill." Nor could he expect to reduce all dislocations of the hip-joint as he did the only case he ever saw, "after pulling it in every direction but the right," viz. by "carrying the knee towards the patients' face," forming, as we think, a marvellous example of good luck, in the absence of sound judgment. Even in this extraordinary case, he had the assistance of two men—but the power exerted by them, obviously did not succeed, from not being applied by "the hand of skill;" "the limb was pulled in every direction but the right;" the operator felt satisfied that there was a right direction, but not being very certain as to where it was, and knowing that if he pulled to all points of the compass, he could not miss it, he persevered till he came to it.

• This is very analogous to the principle on which a physician called to consult with another, in a case of protracted indisposition, the primary seat of which, could not be made out clearly, recommended calomel; he would give it, because says he, "you know it is a great searcher."

The deponent admits that some force is necessary—only let it be skilfully applied; then the question at issue is, whether this force, let the amount be what it may, can be applied more advantageously by the pulleys, than by the hands of assistants; and we believe that surgeons are unanimously of the opinion, that the pulley is much more certain, and not less safe.

It is not that the power can be increased indefinitely, that the pulley is preferred; but because the force can be more certainly graduated; and supported without any unnecessary interruptions; there is no jerking; no diminution or cessation, from weariness of the moving power; no point gained is relinquished. The hand, or more correctly, the mind of skill is as necessary in using the pulley, as in the employment of manual assistance. Dislocation of the hip-joint is not to be reduced, as the general rule, by pulling "in every direction but the right;" and this only to be discovered by the effect, viz. the reduction.

Not knowing which is the right direction, if we should happen not to apply force enough; or not continue it sufficiently long when we did hit it, we never could prove that there was a right direction at all; and must arrive at the conclusion, that they are all wrong.

It is not easy to understand the deponent, when he speaks of using the thigh bone as a lever, and says that "in some cases

the fulcrum is some of the bones of the pelvis." We venture to assert, that not one of the bones of the pelvis, can be made a fulcrum for the thigh bone, in the reduction of a luxated hip-joint.

We get some new and rather questionable anatomical information, when we are told, "that in the living subject, the ischiatic notch is filled with a firm strong ligament, which is again covered with muscles, so that the head of the bone could not sink much into it."

We should regret much to be compelled to admit that not one medical man in ten, in our country, can reduce this luxation, according to the opinion of the deponent. We think better of the skill of our surgeons. They are not all like doctors Faxon and Hawks.

We have thus briefly noticed what we suppose to be the more important parts of this letter. Doctor Warren has effectually exonerated himself from the charge of moral turpitude. His principles and practice, we think we have a right to subject to fair and rigorous criticism.

S. A.

*Selecta with Remarks.*

## SURGICAL.

1. *Compound Fracture of the olecranon.* By H. Earle, Esq. Anchylosis frequently follows the compound fracture extending into joints, and a most important question therefore arises, in what position such a fracture as occurred in the following case, should be placed. "A choice of evils presents itself to the practitioner—whether the limb should be placed in the extended position commonly employed in simple fracture of this part, by which the fractured surfaces may be closely approximated; but in the event of suppurative inflammation, the joint may become immoveable in a position which renders it nearly useless; or whether the limb should be bent nearly to a right angle, by which the fractured ends would be widely separated, but in the event of ankylosis, the limb would be useful to all the common purposes to which it is applied."

"A man aged twenty-three, was admitted into St. Bartholomew's hospital, on the first of December, with compound fracture of the right olecranon, produced by a blow on the elbow, from a poker, while in the act of raising his arm to defend his head. A small artery was divided, which bled profusely. When admitted into the hospital, the olecranon was slightly retracted to the upper part of the posterior fossa of the humerus. The wound was accurately closed, and the hemorrhage readily restrained by a compress. The external wound was rather below the seat of the fracture. Mr. Earle visited him a few hours after his admission, at which time the olecranon was not in the least retracted, though it could be moved laterly in its proper cavity. The arm was placed on a pillow, extended to an angle of 160 degrees, and was enveloped in cloths wetted with the coldest water. Calom. gr. iv. Pulv. Jalap gr. xv. were given to him. [We cannot withhold our surprise at the small doses of cathartic medicines exhibited by English practitioners, they will answer no good purpose with us.]

"On the 2d extensive inflammation of the whole arm had taken place, with great pain in the joint. He was bled from the arm, and thirty leeches applied round the joint. The calomel and jalap were repeated; as he complained of the cold applications, warm fomentations were substituted, from which he experienced much relief, and the strictest antiphlogistic regimen enjoined. [We are decidedly opposed to the modern innovation of topical bleeding, before the system is prepared for it, by reducing the general circulation—it very often, in good habits, increases the influx to the part, and becomes a source of injury, this patient should have been bled promptly, and to such extent as his system would have borne; mostly in good habits, it is best to prostrate the system at once. You will have far less inflammation, and in short, more may be effected by one or two free bleedings, than by days of abstinence, aided by topical bleeding—we by no means object to topical bleeding in its proper place; but reduce the system first, and if your inflammation continue notwithstanding, topical bleeding will be found doubly efficacious.]

"3d. The swelling was somewhat reduced, but he complained of excessive pain in and about the joint, and he had frequent convulsive twitchings in the arm, which disturbed his rest. A long splint was applied in front, with an additional pad at the flexure of the elbow, to maintain the exact degree of flexion which I have found best adapted to these cases, and which I have particularly advocated in a paper published on this subject in 1823. The wound had not united, and discharged a thin fluid resembling synovia. The bursa over the olecranon was much distended with fluid, and around

this the integuments were very shining and inflamed. Being apprehensive of extensive cellular inflammation, which so frequently attends on inflammation of the bursa, I made a free incision, and let out about a half an ounce of turbid fluid. This afforded great relief, and there was no further irritation from this source, the wound readily healing in a few days. Thirty more leeches were applied to the joint.

"4th. He still complained of much pain in the joint, which continued to pour out turbid thin synovia in abundance. Thirty more leeches were applied in the morning, and twenty again at night, and the limb was constantly fomented. His bowels were kept open, and fever diet continued. [These accidents, occur most frequently in laboring men, very often in situations where leeches cannot be had. In city practice, leeches, to the amount employed above, would be a source of very considerable expense. We believe most cases can be managed nearly as well without them, provided, we early and promptly reduce the body by general bleeding—avail ourselves of an elevated position, and confine our patient to dry toast and water. Our experience leads us more and more to believe, that inflammation is protracted by that peculiar condition which we call irritation; that in most cases of inflammation we should reduce the system as speedily as may be considered safe, either by general bleeding, or by adding the local detraction of blood to the general; and, then resort to opium, especially in the form of Dover's powder. We shall thus save the patient much pain, in many cases, and often expedite the cure.]

"On the sixth, the swelling and inflammation were much reduced; the discharge continued very abundant. From this day until the 10th, he continued to improve, and could bear the surface of the joint to be pressed gently together, and the radius to be pronated and supinated without any increase of pain. On this day, (10th,) some purulent matter was mixed with the thinner discharge of synovia. I had constantly withheld the appearance of the discharge, having determined, if a copious purulent discharge took place, accompanied with obstinate inflammation in the joint, indicating ulceration of the articular cartilages, that it would be right to disregard the separation of the broken bones, and to alter the position of the limb to a state of more perfect flexion. The puriform discharge was, however, so small, and the inflammatory action had so much subsided, that I did not consider it necessary to make this alteration.

"The discharge from this time gradually diminished, and the wound closed in about three weeks after the injury. During this time he had twice a return of pain in the joint, but this readily yielded to the application of leeches. Slight passive motion, particularly of the radius was commenced about the twenty-third day, and gradually increased. The olecranon was united so firmly and perfectly, that it required a most accurate examination to detect the line of the fracture. He has at present the power of pretty easily extending the arm and bending it to a right angle, and he is daily gaining free motion and greater power in the joint. In supinating the arm with the arm bent, a slight grating sensation may be perceived, which causes some pain, which probably arises from partial absorption of the cartilage." *London Med. Gazette, (Extract, A. J. of Med. Sciences.)*

[We consider the above case as representing the true principles which should govern our practice in such cases. We would suppose very few cases could present themselves, where there are hopes of saving the elbow joint after severe fracture and contusion, in which it would be allowable to flex the limb until we had watched the symptoms. It is extremely important that the motion of the joint be preserved, but if we should observe after one, or two, or three weeks, that the limb can only be saved with

anchylosis, we will still have it in our power to bend the arm, seeing that anchylosis will not be likely to take place for several weeks. To bend the arm, however, when anchylosis is about to take place, is highly important and should never be omitted.]

[2. *Case of Strangulated Hernia.* In the month of August, 1829, we were called to a case of strangulated hernia. The usual remedies had been employed by doctor Yeates—this morning, the consultation consisting of doctors Handy, McCulloch and Yeates, used their endeavours to reduce the hernia, by the taxis aided by injections of tobacco smoke.

We found the patient considerably prostrated, pulse jerking, and irregular, skin warm and moist, stomach very irritable, rejecting every thing taken in. Hernial tumor very large, and obviously containing a good deal of water. The magnitude of the tumor together with the water present, rendered doubtful the precise nature of the tumor. We were inclined to the belief that, it contained a large portion of omentum, with more or less intestine. The parts were now extremely sore to pressure, and the patient, apparently resolute, complained violently upon the slightest attempts at reduction. We were convinced from the extreme sensibility of the parts, and the interruption from the water present, &c. that little or no chance existed of reduction being effected—still we judged it best, with the concurrence of the gentlemen above named, who had called us into their consultation, to try the effects of a tobacco injection. The bowels had become so irritable, that the injection was instantly rejected, and as the patient was obviously sinking very fast, the operation was determined on.

In the presence of the above named gentlemen, and doctor Aitkin, we made the external incisions in the usual way—a large quantity of serum escaped from the divided scrotum. A large portion of the omentum was found down, and nearly a foot of the intestinum jejunum was protruded, and of a deep blood red color, with here and there a brownish spot, which, on a slight view, had much the appearance of sphacelation; but which turned out to be a high state of echymosis. The intestines were filled with a watery fluid which created much difficulty in returning them; this however, was not attempted until after cutting the lower ring, and failing in reducing the omentum. This viscus was found extensively attached to the cord and tunica vaginalis. Not being able to return the omentum, and finding it curiously entangled about the cord, we attempted the reduction of the intestine, but after passing up a little of it and finding no further progress in the reduction, we examined the upper ring more carefully, and found here a more considerable stricture than at the lower—before these attempts at reduction, the hernial sac was freely laid open. This upper stricture was made by a bold, and cord-like edge formed on the iliac side of the aperture, through the fascia transversalis, and owing to the great distention of the intestines, by water within them, it became necessary to divide the ring more freely than we had been accustomed to do—after this we readily succeeded in the reduction.

But still a difficulty existed with the omentum, owing to the attachments which we have mentioned. Feeling a decided preference for returning the omentum whenever it is sound, we made an attempt at dissecting it from its attachments, but had not proceeded far till we found it so vascular as to forbid all hope of succeeding without subjecting the patient to serious risk by prolonging the operation. We, therefore, contented ourselves with reducing so much as we could, and leaving the remainder in situ.

The double stricture, the remarkable one at the upper aperture; the stuffing of the intestine with serum, the great and peculiarly curious attachments of the omentum conspired, together with a leading desire in our operations in hernia, to avoid any unnecessary division of parts, with a view of guarding against future hernia, led to some delay in the operation, but not such as to interfere with the patient's getting to bed as well as could have been expected.

The next day we found the patient doing well—his bowels had been pretty freely open during the night, although nothing had been taken but one grain of opium. The patient being a little feverish, and also a good deal prostrated, was allowed a little wine, and occasionally spirits of nitre, in moderate doses. All solid food was prohibited for a few days. We now left the case under the care of doctor Yeates whose patient he was as physician to the Penitentiary—he soon recovered.]

3. *Hernia of the Muscles*.—After accidental openings, says Dupuytren, made in the fascia by surgical operations, wounds not surgical, or violent efforts, it frequently happens that the muscles during their contractions pass through the apertures, and form true hernial protrusions. They are sometimes very painful, and prevent the patients from using their limbs, and especially from walking, unless they are treated by appropriate bandaging. Occasionally the tumors thus formed, give rise to strange errors in diagnosis, and consequent mischief in practice. A young man, for instance, the son of one of the members of the *conseil général des hospiteaux* fatigued himself greatly in mounting a horse, de le Anglaise, whose manner of riding is well known to exercise greatly the muscles of the calf. A tumor supervened on the inner and posterior part of the leg, which was extremely painful on walking, or even standing still. When the patient lay down, the tumor disappeared and the pain subsided. Several practitioners were consulted on the case, some of whom, thought it was a varix, others, an enlargement of the nerves, but M. Dupuytren detected a protrusion of the muscles, such as has been mentioned above, and applied a bandage with complete success. *Johnson's Journal*.

[When we are told that this species of hernia "frequently happens," we cannot but be startled—a disease so novel, so painful, so indicative of the frailty of our bodies, is truly alarming. But be "not alarmed, gentle reader," says doctor Johnson—and so say we, for we think most of you, who are destined to long life, will be covered with gray hair before you meet such a case; and you see, moreover, how easily it was cured. Still we do not mean to call in question, the fact reported, nor the opinion of M. Dupuytren, as to the nature of the disease—but we take comfort from believing, that this disease will seldom be seen. However seldom it appears, it is important to know how to treat it.]

4. *Case of Extirpation of the Uterus*.—This case is reported by doctor Johnson from the *Clinique*. The operation performed by professor Recamier. The symptoms consequential to the operation were uncommonly mild.

Case of successful extirpation of the cervix uteri, by doctor John B. Strachan, of Virginia, reported in the *American Journal of the Medical Sciences*. These cases are multiplying so rapidly as to reconcile us to this apparently desperate operation. What are we to say of members of our profession coming into court to condemn the writer of this, for having performed this operation, although it was known by the post mortem examination that the ovaria were in a cancerous state.—See the *Medical Recorder of Philadelphia* for 1829.]

5. *Case of ununited fracture*.—We find the details of a case of non union in the thigh of a boy, reported by Mr. Lyford. Doctor Johnson, who

copies this case from the Provincial Gazette, says, that "well regulated pressure has been found most useful in the long run." In this sentiment, we fully agree; and we find this subject amply explained by Boyer, in his surgery by Stevens. We also agree with doctor Johnson, when he states as his opinion, that "next to pressure we would place the seton in the scale of valuable methods of treatment." But why do our trans-atlantic brethren so studiously avoid noticing American improvement. This operation of the seton, alike rational and bold, does honor to its author, doctor Physick.]

[6. *Lithontrity*.—Mr. Alcock of London, reports, to doctor Johnson, that Mr. Heurteloup has added some important improvements to the instruments used in this operation. The first intended to "seize a round oval stone in the bladder, one inch in diameter, and scooping it out, break it up at once." Another, for seizing a stone from twelve to eighteen lines, and destroying at one setting." He has, it is said, invented a third instrument, for grinding or crushing shells and fragments, left by the *drills*. As a proper knowledge of these instruments can only be had by seeing them, we shall decline entering into any description—we wish only to say further on this subject, that we remain sceptical, believing that the operations of lithontrity, though often successful, possesses no advantage over the *lateral operation*, since it is only in the more favourable cases that the former seems to be available; and agreeably to the reports of Civiale, he has lost more patients than any good surgeon loses in this country, by the lateral operation.—Nay, we hazard nothing in saying, if well performed, no patient will die of the operation—collateral circumstances may fall in to deprive the surgeon of his due, but a good operation in a subject reasonably healthy, ought not, and will never prove fatal !]

7. *Elements of Medical Statistics; containing the substance of the Glastonham Lectures, &c., with numerous additions illustrating the comparative Salubrity, Longevity, Mortality, and prevalence of Diseases in the Principal Countries and Cities of the civilized World.* By F. BISSETT HAWKINS, M. D., &c. &c. 8vo. pp. 234. 1829. It is a melancholy, but certainly a useful labour to inquire into the causes which shorten man's brief span of existence in this sublunary scene. There can be no doubt that nature designed that the whole of three-score years and ten should be enjoyed by the human species, and that all men should ultimately die the DEATH OF NATURE. Yet little more than one half of those who see the light of Heaven are found to run even this short race.

"Independently of the light which this study throws upon Medical Science, it affords the most valuable illustrations of the history, manners and customs of mankind, and a just criterion of the progressive or retrograde movements of society. Political philosophy can make few steps without an occasional recourse to its aid, and none at all without a reference to its stores, on explaining the principles which regulate the population of states, Malthus, who may be in some degree considered as the father of that subject, from the maturity to which he has reared it, remarks, that 'we may promise ourselves a clearer insight into the internal structure of human society from those inquiries. But the science may be said yet to be in its infancy, and many of the objects on which it would be desirable to have information have been either omitted, or not stated with sufficient accuracy.'"

Some of these inaccuracies have been corrected since the time when Malthus wrote, and our intelligent author modestly states that he should be amply rewarded if the present humble Essay should form a repository of the labours of his predecessors—"if it should become an early mile-stone on a road which is comparatively new, rugged, and uninviting to the trav-

eller, which gradually discloses the most interesting prospects, and will, at length, largely recompense the patient adventurer."

The work is divided into sixteen chapters, and we shall endeavour to give a rapid sketch of these or most of them.

CHAP. I. This chapter embraces a comparison between the value of life in ancient and modern times. The author sets out with applying a piece of very flattering unction to the souls of modern *Æsculapii*.

"Medical statistics afford the most convincing proofs of the efficacy of medicine; it is one of the easiest arguments that can be employed to refute the vulgar notion (and one sometimes barelessly countenanced by medical men,) that nature is alone sufficient for the cure of disease, and that art as frequently impedes as it accelerates her course. The powers of self-restoration are in no diseases more conspicuous than in fever. But if we form a statistical comparison of fever treated by art, with the results of fever assigned to the care of nature, we shall derive an indisputable conclusion in favour of our profession.\* Hippocrates has left a frank and explicit statement of the history and fate of forty-two cases of acute disease, in which it does not seem that any therapeutical plan was adopted, if we except glysters and suppositories in a few, and bloodletting in one. Amongst these were thirty-seven cases of continued fever, without local affection. Of the thirty-seven, twenty-one died, above half of the whole. But if we examine the returns of the Fever Hospital of London, we find (in 1825) that the total mortality was less than one in seven; and half of these deaths occurred within seventy-two hours of the admission of the patients,—a circumstance which indicates that several entered at a period of disease when the hope of recovery was extinct. In the Dublin Fever Hospital we find a still lower mortality: the average from 1804 to 1812 was one in twelve: and in the clinical wards at Edinburgh, in 1818, the mortality of fever was also about one in twelve. Of five cases of local inflammations, which Hippocrates records, four were fatal; of all his forty-two patients, in short, twenty-five were lost: a termination which throws no shade over his skill, but only brings to light his love of truth. The mortality belonged to the age, and not to the physician; and we may reasonably infer, that under other practitioners of his time and country, it was even more severe. It is curious to observe, that of the five cases of local inflammation, the only one which survived was the solitary instance in which bleeding was employed,—a pleurisy. We perceive, that one out of two acute cases may recover by the almost unassisted efforts of nature, but that under the medical protection of our own age and country, six out of seven, or even eleven out of twelve, are likely to survive, according to the period of the disease at which they are placed under treatment."

We shall not stop to inquire whether a comparison of the practice of Hippocrates with that of the fever-hospitals of London and Dublin be calculated to let in much light on the influence of modern medicine on the prolongation of human life. To form a just estimate, we must take into consideration the benefits arising from quackery; and also from the unavoidable mistakes of the best informed practitioners. If the true state of the case could be seen with these deductions, we should tremble to look at the picture!

Dr. H. instances the influence of various mechanical improvements on the air of certain districts, as the island of Portsea, which was freed from agues by draining. Unfortunately the last two or three years have shewn a return of agues, not only in the best drained places, but in localities where ague had not been known in the memory of man before. The mortality at Portsmouth in 1800, was 1 in 28—and in 1811 it was only 1 in 38—while at Plymouth, which is considered so remarkably healthy, it was 1 in 28.

\* Blane, *Select Dissertations*.



We have no correct information respecting the longevity of the Greeks—and but scanty materials as to that of the Romans. In a small tract of Italy, there is an enumeration of 54 persons who had attained the age of 100—forty who were between 100 and 140—and two individuals who had got beyond 150 years! Dr. H. says this calculation is highly favourable to the longevity of the Romans, but it only relates to a “particular and rural district.” True. But could any particular or rural district in England present such a spectacle?

Lucian has recorded that out of 1000 persons who died, 398 were above 60 years of age. This is considered a vague assertion, and is opposed by the testimony of Domitius Ulpianus.

“This earliest authority on the subject of longevity was a lawyer in the reign of Alexander Severus, of whom he became the secretary and principal minister. From the want of hospitals among the Romans, from the humble condition of their medical attendants, from their gross sensuality, inactive habits, abuse of the bath, and manner of dress, as well as from the unhealthy state of their situation (which even then appears to have been a source of alarm,) we might have anticipated that longevity would not become common; and the authority of Ulpian corroborates the opinion. According to him, registers of population, puberty, age, sex, disease, and death, were kept with exactness by the censors, from the time of Servius Tullius to Justinian, and comprehend a period of ten consecutive centuries. But, unfortunately, these registers embrace the citizens of Rome alone and not that large part of the population composed of slaves. The inferences to be drawn from them relate accordingly to select, or *picked* lives, and not to the mass of society. From observations formed on 1000 years, the expectation, or mean term of Roman life, has been fixed at thirty years. To make a just comparison of the value of life in Rome, and in England, we must select subjects in England similarly circumstanced, of a condition relatively easy; and the result discloses an extension of life remarkably in our favour. Mr. Finlayson has ascertained, from very extensive observation, on the decrement of life prevailing among the nominees of the *tontines*, and other life-annuities granted by the authority of Parliament, during the last forty years, that the expectation of life is above fifty years for persons thus situated, which affords our easy classes a superiority of twenty years above the Roman citizen. The expectation of life for the whole mass of Britain is at least one in forty-five, which affords to all our classes a superiority of fifteen years above even the easy classes of the Romans.”

“The mean term of life among the easy classes of Paris is at present forty-two, which gives them an advantage of twelve years above the Romans.”

The expectation of life in Rome in the third century of the Christian era was as follows:—From birth to 20, there was a probability of 30 years— from 20 to 25, 28 years— from 25 to 30, 25 years— from 30 to 35, 22 years— from 35 to 40, 20 years— from 40 to 45, 18 years— from 45 to 50, 13 years— from 50 to 55, 9 years— from 55 to 60, 7 years— from 60 to 65, 5 years. The computation did not extend beyond this.

It is certainly gratifying to compare the above with the results of modern researches on the probability of human life. At 20 years of age, Mr. Finlayson shews us a probability of 40 years—at 40, he allows 29 years—at 50, he promises 22 years—at 60, he admits 15 years!

“At Geneva, good mortuary tables have been preserved since 1560, and the results are in the highest degree curious and satisfactory. It appears, that, at the time of the Reformation, half the children born did not reach six years of age; in the seventeenth century, the probability of life was about eleven and a half years; in the eighteenth century, it increased to

above twenty-seven years. We arrive at the remarkable conclusion, that, in the space of about three hundred years, the probability of life to a citizen of Geneva at his birth, has become five times greater. The *mean life* was thus, in one century, eighteen years; in the next, it grew to twenty-three; in the middle of the next, it rose to thirty-two; and finally, during the present century, from 1815 to 1826, it amounts to thirty-six years."

Such a cheering prospect would almost induce the hope of immortality, if things went on thus improving. But, alas! the final period is still the same, although more reach the utmost goal than formerly.

CHAP. II. In the second chapter of the work, our indefatigable author adverts to the progressive changes and present state of mortality in Great Britain. We can only glance at a few of the particulars. In 1780 the annual mortality of England and Wales was 1 in 40. In 1790, it diminished to 1 in 45. In 1801, it continued to diminish, but not at the same rate—it became 1 in 47. This moderate rate of improvement is attributed to the scarcity which afflicted England in 1795 and 1800. In 1811, the ratio of death was 1 in 50—and finally, in 1821, the annual mortality sinks to one in 58 or 60. Thus it has decreased from 1 in 40 to 1 in 58 in the course of forty years.

There is great difference in the ratio of mortality in the different counties of Great Britain, varying from 1 in 47 to 1 in 72, Middlesex and Sussex being the two extremes. Pembrokeshire and Anglesey have only 1 death yearly in 83 individuals—the lowest rate of mortality that has been known in Europe. The mortality in each county is mainly influenced by the proportion of large towns which it includes.

"In Lincolnshire the amount is only 1 in 62, although it is particularly the seat of ague; but this moderate share of mortality is probably due to the large proportion of dry and elevated districts to the fenny; if not to the circumstance which Dr. Wells has remarked, that phthisis pulmonalis is but little observed in places infested with the exhalations which produce intermittent fever."

But the decline of mortality is even greater in our cities than in the rural districts. In London, the total deaths, in the year 1697, were about 21,000—whereas, in 1797, the amount was only 17,000. This decrease in the absolute mortality is great, when we consider the immense augmentation of the metropolis in a century. It is remarkable that this healthy condition of London seems to have been chiefly the produce of the last 50 or 60 years. In the middle of the last century the annual mortality of the metropolis was 1 in 20—it is now 1 in 40. Thus the chances of existence have just doubled in the course of 70 years—a progress unparalleled in the history of any other age or country.

"One city alone, in Europe or in England, approaches to London in the value of life proportionately to its size; it is the second in England in number of inhabitants, the seat of manufactures—Manchester. The mortality of Manchester was, about the middle of last century, 1 in 25; in 1770, 1 in 28. Forty years after, in 1811, the annual deaths are diminished almost beyond belief, to 1 in 74; but the improvement does not stop even there, for, in 1821, they appear to become still fewer, although the population has been quadrupled during the 60 years through which the deaths have so diminished. It is due to the memory of doctor Percival and doctor Ferriar, that we ascribe a large share of this improvement of health to certain regulations of police, particularly with respect to ventilation, recommended and introduced by them into Manchester."

CHAP. III.—*Superior Salubrity of England.*—In France, the annual deaths in 1781, were 1 to 29 for the whole population—in 1802, they were 1 in 30—in 1823, 1 in 40. In Paris, about the middle of the last cen-

tury, the mortality was 1 in 25—at present it is about 1 in 32. It has been calculated that, in the 14th century, the mortality in Paris was 1 in 16 or 17. In Sweden, the range of mortality has decreased from 1 in 35 (1755 to 1775) to 1 in 48. Berlin has augmented in salubrity during the last 50 or 60 years, from 1 in 28 to 1 in 34.

"Since the late peace, the principal governments of Europe have paid much attention to statistics, and we possess very instructive returns from nearly all the countries, cities, and hospitals on the Continent. A comparison of these results enables us to submit a very interesting conclusion, and one which we are not aware to have been as yet generally received, namely, that the mortality of Great Britain, its cities, and its hospitals, is greatly inferior to that of any other country in Europe; and that it is incontestible that Great Britain is at present the most healthy country with which we are acquainted; and that it has been gradually tending to that point for the last 50 years. In the comparisons which we shall have occasion to make, in order to support this assertion, we shall carefully abstain from reproducing the tables of remote periods, which have been often previously discussed, and shall be confined to the most recent and genuine details. It is remarkable, that this superior value of life in Great Britain is not confined to any particular districts, or classes of individuals. To whatever point we turn our view, the advantage is still the same: the man of affluence, the pauper-patient of the hospital, the sailor and the soldier on active service, the prisoner of war, the inmate of a gaol, all enjoy a better tenure of existence from this country than from any other of which we have been able to consult the records. It has been long the fashion, both abroad and at home, to exhaust every variety of reproach on the climate of our country, and particularly on the atmosphere of London; and yet we shall find that the most favoured spots in Europe, the places which have long been selected as the resort of invalids, and the fountains of health, are far more fatal to life than even this great metropolis."

The annual deaths, on the average, throughout the whole of England and Wales, is nearly 1 in 60. The country which approaches nearest to us in salubrity, is the Pays de Vaud, where the average mortality is 1 in 49. Sweden and Holland present the same standard nearly, 1 in 48. Next on the list is France, where 1 dies annually out of 40—a proportion precisely similar to that of London. The kingdoms of Prussia and Naples follow—ranging from 1 in 33 to 35. The annual mortality at Montpellier is greater than in London, which equals in salubrity the department of the Hérault, "the southern, the fertile, and the long supposed most salubrious district of France, of which Montpellier is the capital."

"Finke, a German writer who wrote on medical geography in 1792, speaks with surprise and reprobation of the custom which then prevailed in England of sending invalids to the south of France; and declares that the cutting winds of those quarters annually destroyed many of those wanderers in quest of a milder sky."

"The annual mortality of Nice, though a small town, and enjoying a fictitious reputation of salubrity, is 1 in 31; of Naples, is 1 in 28. Leghorn is more fortunate, and sinks to 1 in 35. We instance those places as being the frequent resort of invalids; but how astonishing is the superiority of England, when we compare with these even our great manufacturing towns, such as Manchester, 1 in 74; such as even Birmingham, 1 in 43; or even this overgrown metropolis, where the deaths are only 1 in 40. But if we take indiscriminately the other great cities of Europe, their inferiority in respect to the value of life is equally pointed; in Paris, for instance, the annual deaths are about 1 in 32, in Lyons and Strasburg the same, in Barcelona the same: Berlin approaches a little nearer to London, it reckons 1

in 34. Madrid loses 1 in 29. Rome, Amsterdam, and Vienna, are last in the scale of life; in Rome the deaths are annually 1 in 25, at Amsterdam they are so numerous as 1 in 24, and at Vienna, 1 in 22½: we perceive that the inhabitant of London has almost a twofold advantage in this respect."

We may remark upon the above passage that, although the mortality may be greater in Rome, or Naples, or Nice, than in London, it does not follow that particular complaints, as incipient pulmonary affections, may not be benefitted by a *temporary* residence during a *particular season* of the year in the above localities. A man may die of heat or malaria at Rome in the month of August—but his life may be preserved by a residence there during December, January, and February, in consequence of the mildness of the air, compared with Hampstead or Highgate. It is hardly fair, therefore, to laugh at the invalid who migrates during the Winter or Spring to a milder climate than that of England, though the latter, taking the whole year round, may be more salubrious than the climates of the most favoured spots on the Continent.

CHAP. IV.—*Medical Statistics of Countries.*—FRANCE. It is calculated that about half of the children born live to 20 years, and a third to 45 years. The lowest annual mortality is at the age of 10, when it is only 1 in 130. At the age of 40 it is 1 in 53. The probability of life in France, at the age of 40, is 23 years. The mortality increases amongst the poor and diminishes among the affluent. In the wealthy departments of France, life is protracted 12 years beyond its course in those which are poor. Thus in the departments of the Calvados L'Orne and La Sarthe, one individual dies annually in 50; while in the twelfth Arrondissement of Paris, the annual deaths are 1 in 24!! Such is the influence of condition, or the absence of fatigue and privation on the frame, that, during the years 1816 to 1828, the mean height of young men fit for military service has been found to be, in Paris, 5 feet, 2 inches, and 1½ lines—but only 5 feet, 1 inch, and 9½ lines for the suburbs of Sceaux and St. Dennis. The same fact has been ascertained in Lyons and its vicinity.

PRUSSIA. One birth in 13 is illegitimate in Prussia. The average mortality is about 1 to 35.

AUSTRIA. A sixth of the whole population is illegitimate in the Province of Styria. The mortality is 1 in 38. In *Russia*, we find the mortality 1 in 41. In America (United States,) it is calculated that, on an average, 1 in 40 die annually—the rate of France. In South America, Humboldt calculated the average mortality at 1 in 30, which is a greater proportion than now occurs in any country of Europe.

CHAP. V.—*Medical Statistics of Cities.*—"It is well known, that in any given country the deaths of a city are more numerous than those of the rural districts. This difference was principally felt in the first five years of life, when many more die in London than in the country. From 5 years of age to 20 the deaths in London are fewer. Between 20 and 50 many more die in London, on account of the large annual influx from the country. In all cities a large portion of disease and death is to be assigned to the constant importation from the country of individuals who have attained to maturity; but having been previously habituated to frequent exercise in a pure atmosphere, and to a simple regular diet, are gradually sacrificed to confined air, sedentary habits, or a capricious and over-stimulating food. These causes are not equally fatal to those who have passed their early years within the walls of a city: and after the age of 50 the proportion of deaths in London is smaller than in the country. Jenner, and very recently doctor Baron, have made some very curious experiments on animals, which indicate that a loss of their open range and natural nourishment has with them, also, a tendency to disorganize and to destroy.

Doctor Baron placed a family of young rabbits in a confined situation, and fed them with coarse green food, such as cabbage and grass. They were perfectly healthy when put up; in about a month one of them died; the primary step of disorganization was evinced in a number of transparent vesicles studded over the external surface of its liver.

"In another, which died nine days after, the disease had advanced to the formation of tubercles on the liver. The liver of the third, which died four days later still, had nearly lost its true structure, so universally was it pervaded with tubercles. Two days subsequently a fourth died, a considerable number of hydatids were attached to the lower surface of the liver. At this time doctor Baron removed three young rabbits from the place where their companions had died to another situation, dry and clean, and to their proper and accustomed food. The lives of these remaining three were obviously saved by this change. He obtained similar results from experiments of the same nature performed on other animals."

In GLASGOW, the average annual mortality is about 1 in 44 persons. In Paris, the poor and the rich occupy the two extremities of the scale. The mortality in the one is nearly double that in the other. The average is 1 in 32.

"The number of violent deaths in 1828 was 690, of which 390 were cases of suicide.

"Reviewing, on one side, the great political, moral, and physical events, which have occurred at *Paris* during a succession of years, and on the other the progress of its population, Villermé has ascertained, that whenever the people have suffered from *any* cause, the deaths have correspondingly increased, the births have decreased, and the mean duration of life has been shortened. In periods of prosperity he has found results directly opposite to these. The mean duration of life in Paris is 32 years and some months.

"It was formerly estimated, that one-third of the inhabitants of Paris died in the hospitals; but Dupin has lately calculated that half the deaths in Paris take place in the hospitals and other asylums of charity. Not a fourth part of the inhabitants are buried at private cost."

In GENEVA, the average mortality for the four years ending in 1823, was 1 in 43—which is a much greater mortality, by the way, than in some of our largest manufacturing towns, as Glasgow, Manchester, and Birmingham.

PETERSBURG. It is curious that the burials exceed the births in the Russian capital by 134 to 100. The Russians attempt to explain this by the annual influx of persons from the provinces. But this influx is not peculiar to St. Petersburg. The last mentioned city and Stockholm are the only known metropolitan cities which present the preponderance of death over production. The annual mortality of the Russian capital is 1 in 37.

BERLIN. From 1747 to 1755, the annual mortality of Berlin was 1 in 28. Between 1796 and 1799, it improved to 1 in 29 1-11. Here the beneficial change was retarded by the ravages, the losses, the disappointments of war, and from 1802 to 1806 it had retrograded to 1 in 27; but from 1816 to 1822, a period of exultation and tranquillity to the Prussians, the value of life took a remarkable leap, and the annual deaths fell to less than 1 in 34."

VIENNA. In the middle of the last century, the mortality of Vienna was 1 in 20; and it has not improved in proportion as other cities of Europe. According to the most recent calculations, it is, even now, as 1 in 22½.—Among 10,530 deaths, scarcely 38 persons are found who have attained the age of 90.

"The excessive spirit of regulation, the dread of novelty, the restrictions imposed on the medical profession, and political causes which need not to be enumerated, appear to have retarded the natural progress of this city. The over-weening *paternity* of the Government interferes with the trivial concerns of the citizens; in the same manner in which an arbitrary and untaught father sometimes restrains the useful impulses of his children, while he permits an easy vent to their baser propensities."

PRAGUE, the capital of Bohemia, has only one-third the population of Vienna, and is much healthier. The superior longevity of the Jews is strongly marked in this city. One death is annually observed among 26 of the Israelites, while it is 1 in 22½ among the Christians. Instances of considerable longevity, especially among the women, are not rare. Contrary to the usual observation, longevity is confined to poverty and married life.

"According to an average of several years no nobleman, no wealthy person, no bachelor, and no unmarried woman have *passed* the age of 95. This is an interesting fact, but it is an *extreme* and an insulated one, and does not militate against the general *conservative* tendency of prosperity which a variety of evidence seems to establish."

PALMERO. Mortality here is 1 in 31. January, October, and November, are the most fatal months—April, May, and June the most healthy.

LEGHORN. The average annual mortality here, is 1 in 35—among the Protestants and Jews it is only 1 in 48, which is attributed to their greater affluence.

ROME. From a recently-discovered fragment of Cicero (*de Republica*), an intimation is conveyed that the neighbourhood of Rome has been always unhealthy. Speaking of the choice of situation made by Romulus, he observes—"locum delegit in regione pestilente salubrem." The population appears to have been gradually decreasing till the last peace, which has gently revived it. In 1800 there were 150,000 souls—in 1810, only 123,000—within a few years it has gained 10,000. The annual mortality is about 1 in 25.

"There can be little doubt that the force of the aguish disposition of Rome might be considerably weakened by steady and well directed efforts supported by a proportionate capital; but it is to be feared that such a combination of circumstances will not readily meet at Rome. In 1816, 17 out of the 22 French students were attacked with intermittent fevers. The Villa Medici, in which they reside, was formerly healthy; but water brought at a great expense to embellish the garden had been suffered to stagnate there."

NAPLES. The annual mortality here is 1 in 28—a fact that one would not have expected in such a delightful situation, compared with pestilential Rome, where the mortality is less. The population of Naples is nearly three times that of the ancient mistress of the world!!

BRUSSELS. It appears from our author that at Brussels, "the month of May is most favorable for conception." The average mortality is very great, being 1 in 26.

AMSTERDAM. The population of this once great city is decreased, in consequence of declining commerce and political changes. And it is not a little curious as well as melancholy, to observe that its mortality has increased with the progress of decay. In 1777, the ratio of mortality was 1 in 27—a period when Amsterdam was one of the healthiest, as well as one of the most flourishing cities of Europe. The deaths have now increased to 1 in 24—and Amsterdam is one of the least healthy, as well as least prosperous, sea-ports of Europe. A decree has been issued, that after the 1st

of January, 1829, no burials shall be permitted in towns or in churches throughout North Holland.

**Stockholm.** "Drunkenness appears here, as at Berlin, to produce a large share of the mortality. In a recent year this city exhibited a singular instance of an excess of 1,439 more deaths than births; a symptom which it is painful to observe in a brave and industrious people. This disproportion existed particularly amongst the garrison, and is ascribed to the immoderate use of brandy. Our authority affirms that this vice destroys the happiness and prosperity of Sweden more effectually than any war has ever accomplished."

**CHAP. XI.—Suicide in Different Periods and Countries.** Being obliged to pass over some chapters on the statistics of hospitals, we shall dwell, for a moment, on the melancholy subject of suicide.

Doctor Burrows has the merit of having first vindicated our country from the conjectural report of a peculiar tendency of self-destruction. The bills of mortality, on which doctor Burrows founded his calculations, have been objected to by some foreigners, on account of their inaccuracies:—But a document has been lately published which enables us to satisfy the most fastidious sceptic on that point.

"It is well known that a coroner and jury are summoned to investigate every suicide which occurs in Westminster. Mr. Higga, the coroner of the city of Westminster, made in 1825, a report of the suicides committed in Westminster during the thirteen years previous. In order to furnish easy means of comparison, we must premise that the population of Westminster, according to the census of 1821, was 182,444. We may add, for the use of strangers, that it is the centre of dissipation for the whole empire. During the thirteen years from 1812 to 1824, the total number of suicides was only 290, a number, if trebled, would be inferior in proportion to the returns made by the great cities of France and Germany.

"The number of males in this table is 207, of females only 83, which is a proportion of 5 to 2. The November of the thirteen years produce only 22, while the rate of the June is 34. In the years 1812, 1815, 1820 and 1824, November did not afford one suicide. The least prolific months were May and September, next August and October, and then November. During the latter eight years, a reduction occurred on the average of nearly six per annum. The annual average is a little more than 22 during the whole term. From motives of humanity, the juries gave a verdict of *insanity* in all but five instances. In 1825, a year marked by commercial distresses, the total number was 24: of these two women had been seduced and abandoned, and one man cut his throat through jealousy, eight poisoned themselves and eight were found hanging.

The annual number returned by the bills of mortality for London usually ranges between 30 and 50. After making every allowance, we may estimate the number of suicides annually accomplished in London and Westminster at about 100. In England and France the majority of the victims appear to be *unmarried*. In France, the proportion of married men to single amongst suicides has been rated as only 2 to 3.\*

"Other countries certainly present a darker picture. We are not surprised at finding the number of 1,300 recorded for Versailles in 1793, a year of political storm, and of dreadful anticipation to its inhabitants. In 1806, Palret asserts that the suicides of Rouen amounted to 60 during the months of June and July alone. Professor Grohmann notes a remarkable increase at Hamburgh: in 1816 the number was only two, in 1820 it rose to ten, and 1822, produced so many as 59. In the small district of Frankfurt on the Main the number in 1823 was 100.

\* "Dict. Sciences Medic. art. Celibat."

"In 1806, there were 300 at Copenhagen—of late years the annual average has been 100 in 100,000 inhabitants. In Berlin, according to Casper, the proportion is 34 annually in every 100,000 inhabitants, and in Paris 49. The increase in Prussia, and particularly in Berlin, is extraordinary. In the seventeen years following 1758, the proportion at Berlin was one suicide in 1,800 deaths. But in the ten years following, 1787 the proportion is seen to double itself, becoming one in 900 deaths. In the ten years following 1798, it is trebled, and in the ten years ending in 1822 it arose to the formidable height of one in every 100 deaths. These numbers, large as is their amount, do not include many who are found drowned in the river, and whose fate is dubious. In 1817, the proportion for the whole Prussian nation was one in every 400 deaths. We must remark on the comparative frequency of this crime amongst boys in France and Germany. We should not venture to state the curious fact of the existence of a *suicide club* in Prussia, except on the authority of doctor Casper, an eminent statistical writer resident in Berlin, a city where every work is submitted to the *censure*. This club consisted of six persons, who avowed openly their intention of destroying themselves and endeavoured to gain proselytes.—Their absurdity excited more laughter than belief, but three instances occurred of conformity to principle, and at length all the six evinced their sincerity; the last shot himself in 1817."

In Berlin, suicide appears more frequent among weavers and soldiers than in other classes of society. It is more common among the females of Paris than among those of Berlin, in a twofold average—a fact that might be anticipated from the more retired and unambitious path of the German women. During six recent years, 18 cases of suicide happened at Berlin, under the age of puberty—and eleven men above 70. So far more numerous are the civic than the rural cases, in Prussia, that while the proportion in towns is fourteen in every 100,000 inhabitants, the country exhibits only four in the same number. This crime appears to find very few victims in Spain. In the whole of that country only sixteen instances are officially reported to have occurred in 1826. In all Sweden there were only 153 suicides in the year 1823. In four years, (1823–4–5–6,) 4,087 suicides took place in Russia!

"A *suicide club* is said to have existed lately at Paris, but the members were not likely to become numerous: they were twelve, and the leading regulation directed, that one member should be annually selected to put an end to himself.

"Among Roman Catholics the disposition to suicide appears far less prevalent than in Protestant communities. It would be easy to dilate on the sources of this disproportion. Blumberbach made the observation in respect to Switzerland, and Casper has established it relatively to Germany. It is very rare among the *Jews* of Germany, partly from the dread of ridicule which disinclines them towards taverns, and partly from the beneficence of the wealthy members towards the indigent of their own race.

"Climate, then, cannot be considered as a cause, and no one will hereafter ascribe it to changes of weather."

Passing over several chapters, we offer the following extract from the chapter on Climatology.

"When we speak of a healthy climate, it is gratifying to reflect that in most instances it is man himself who has in a great measure created these climates of health. Twenty centuries ago, England, France and Germany, resembled Canada, and Chinese Tartary, countries situated like Europe, at a mean distance between the equator and the pole. Macchiavelli, in his



early age, seems to have anticipated this truth: he remarks, in his quaint language, 'Unhealthy countries become wholesome by the multitude of men who inhabit them; who at the same time are occupied in cultivating the earth, and who make the earth sane: the fires which they kindle purify the air: these advantages, nature herself does not produce.'

"It is only by constant efforts of industry that the salubrity of any spot is maintained: when these are relaxed, or when prosperity and civilization decline, the seeds of disease are immediately deposited in the earth. The aguish disposition has been observed to increase at Rome in the same proportion that its population has diminished. On the other hand, it is well known that the climate of the United States has been remarkably improved by draining, cutting down trees, and the operations of agriculture; and that spots which were impracticable, or fatal to the early settlers, at present afford a comfortable residence. The improvement that is continually taking place in the climate of America proves that the power of man extends to features of nature, which from the magnitude and variety of their causes seemed entirely beyond his control. At Guiana, in South America, within five degrees of the line, the inhabitants, living amidst immense forests, were a century ago obliged to alleviate the severity of the cold by evening fires. But by clearing the surface of the country even the duration of the rainy season has been shortened, and the warmth is so increased that a fire would now be deemed an annoyance. It thunders continually in the woods, but rarely in the cultivated parts.

"It appears certain that the climate of Europe has undergone a great change. If we compare its actual state with the accounts of ancient writers, a remarkable discrepancy is observed, which can only be explained by the influence of industry on the improvement of the soil; and there is reason to believe that America will partake of the same happy amelioration when an equal length of gradual toil has been bestowed upon her. We are told by Cæsar, that the vine could not be cultivated in Gaul on account of its winter-cold. The rein deer, now found only in the zone of Lapland, was then an inhabitant of the Pyrenees. The Tiber was frequently frozen over, and the ground about Rome covered with snow for several weeks together, which almost never happens in our times.

"Even on nations exposed to the same scorching sun the influence of *clime* seems to be more powerful in forming the constitution and the character than mere climate, as is evinced in the wide diversity existing between the Hindoo and the Malay. The *nature of the soil* is the earliest element which operates in creating a national character; but religion and government produce a second, a more essential, a moral climate which ultimately determines not merely the health of citizens, but the existence of a state."

The chapter on the influence of condition, profession, modes of life, &c. on longevity, contains much interesting information which we are obliged to pass unnoticed, in consequence of our narrowing limits. It was long a prevalent opinion that poverty was conducive to long life; but the contrary is evidently the fact. Of an equal number of infants taken from among the poor and the easy classes, it will be found (at least it has been found in France, where the question has been most agitated) that the proportion of deaths among the former is double:—and that wherever is the greatest portion of misery, there will always be found the largest share of mortality.

"The conservative tendency of an easy condition is strongly marked by the very inferior degree of mortality and of disease which occurs among persons insured at the various life-offices. The Equitable Office had always employed the corrected Northampton tables of the probabilities of life.

But Mr. Morgan, the actuary, found in 1810 that the actual deaths which had occurred among 83,000 persons insured during 30 years was in the proportion of only 2 to 3 of what had been anticipated by the tables. And among these *selected* lives the mortality of the women is still less than that of the men; because in the middle classes they enjoy a remarkable exemption from fatigue and difficulty. To illustrate the low rate of mortality among such picked lives, or among persons in the enjoyment of competence, it may be mentioned that the annual average of deaths amongst the persons insured at the Equitable from 1800 to 1820 was only about 1 in 18½. Of 1000 members in the University Club, only 35 died in 3 years, which is a still lower rate, about 1 in 90 annually. Of 10,000 pupils who passed in different years through Pestalozzi's institution in Switzerland, it is even asserted that not one died during his residence there. These were youths chiefly, but of all countries, constitutions, and ages; generally, it is to be observed, of easy circumstances. Pestalozzi, also, paid particular attention to their bodily exercises."

Doctor Hawkins concludes the work with a chapter on the application of medical statistics to the illustration of the principle of population.

After enumerating the many varieties in the distribution of mortality, doctor H. shortly inquires into the causes which diminish it, and especially in this country.

"Among the general causes, the increase of commercial and agricultural industry has multiplied the comforts of the lower classes, and has enabled them to procure a more spacious dwelling, more frequent changes of clothing, and more abundant and more wholesome food; inasmuch, that the average mortality and health of every nation are mainly determined by the degree in which its government has encouraged these pursuits, or has checked their free course. So intimate a connection subsists between political changes and the public health, that wherever feudal distinctions have been abolished, wherever the artisan or the peasant have been released from arbitrary enactments, there also the life of the lower classes has acquired a new vigour; and it is certain, that even bodily strength and the power of enduring hardships are divided among the nations of the earth in a proportion relative to their prosperity and civilization.

"We may easily conceive the different constitution of body and of mind which is likely to grow upon the unemployed inhabitant of a decayed city, who gloomily wanders, without an object, through silent streets whose pavement is choked with grass; and upon the active citizen who feels himself a constituent member of a flourishing community, and who is attracted on all sides by invitations to the exercise of his faculties.

"It is indisputable, that the average proportion of deaths in England and her cities is less than that of any other country of Europe. And it may be added, that the powers of body and mind are preserved to a late period in higher perfection here than in other countries: nowhere are the advances of age so slowly perceived, and nowhere so little manifested on the exterior. An analogous condition of health and vigour may be also observed in our animals and in our vegetation; and if it should be replied, that this excellence is owing to the care bestowed on their culture, the answer applies equally to the human being, on whom more attention is here bestowed, and who is really an object of greater value here than elsewhere."

We cannot part with our talented and erudite author, without expressing our admiration of his industry, his good sense, and his amiable feeling, as evinced through every chapter of the work under review. We shall be much deceived, as well as disappointed, if other, and still more interesting productions, do not ultimately issue from the same source. *Perge pede quo cespiti.*

[It is very natural that doctor Hawkins, being an Englishman, should claim for England all she is entitled to.—But we must be permitted to doubt his opinion when he says, that man is a being “on whom more attention is here (England) bestowed, and who is really an object of greater value here than elsewhere.” We will only say in answer, that such assertions are easily made; and we are willing John Bull shall thus praise himself!

It may be observed that the mortality in the United States is made equal to that of London; upon what authority this statement is given, we know not; but we are far from being willing to admit it as correct—indeed, such is the difficulty of arriving at correct information in this, comparatively, thinly settled country, with so little system in the registry of deaths, that time must yet decide the truth or falsity of the aforesaid estimate—for ourselves we more than doubt its accuracy:

It will be observed that the foregoing statistical sketch is a review of doctor Hawkins’ work by doctor Johnson—the text is enclosed in quotation marks.]

The third Annual Commencement of the *Washington Medical College of Baltimore* was held in the Rev. Mr. Duncan’s Church on Tuesday, 23d of March, 1830.

The ceremonies opened with prayer by the Rev. Mr. DUNCAN, which was followed by an examination of the graduates present, on the subject of their respective theses.

The Diplomas having been distributed, an appropriate address was delivered to the graduates by Professor SAMUEL K. JENNINGS, after which, the proceedings were closed with prayer by the Rev. Mr. GIBSON.

*The following are the graduates.*

Edward Foreman,	Baltimore,	On Physiology of the Brain.
Thomas H. Bond,	Calvert co. Md.	“ Fever.
Thomas Bealmear,	Baltimore,	“ Scrofula.
Robert D. Laveille,	Bladensburg,	“ Intemperance.
Edward A. Cromwell,	Frederick,	“ Hepatitis.
Joseph M. Cromwell,	do.	“ Uterine Hemorrhage.
John Pierce,	Baltimore,	“ Duties of the Physician.
William Hayes,	do.	“ Convulsions.
John Y. Bassett,	Alabama,	

The Honorary degree of Doctor of Medicine was conferred on Dr. William Marshall, of Prince George’s County, Md.

JAMES B. ROGERS, Register.

# HEALTH OFFICE, Baltimore, January 1, 1830.

Report of Interments in the City of Baltimore, from the 1st day of January, 1829, to the 1st day of January, 1830.

INTERMENTS.						OF THE FOLLOWING AGES.	
	Males.	Females.	Total.	Colored.	Free.	Slaves.	
January	75	79	154	43	32	11	Still-born . . . . . 106
February	70	66	136	37	31	6	Under one year . . . . . 428
March	92	82	174	67	56	11	Between one and two . . . . . 126
April	71	60	131	38	32	6	“ two and five . . . . . 167
May	49	44	93	19	15	4	“ five and ten . . . . . 55
June	100	84	184	58	43	15	“ ten and twenty-one . . . . . 111
July	103	91	194	52	43	9	“ twenty-one and thirty . . . . . 177
August	137	118	255	57	52	5	“ thirty and forty . . . . . 188
September	85	79	164	47	41	6	“ forty and fifty . . . . . 176
October	67	47	114	34	23	11	“ fifty and sixty . . . . . 122
November	73	56	129	45	37	8	“ sixty and seventy . . . . . 87
December	63	58	121	32	24	8	“ seventy and eighty . . . . . 65
							“ eighty and ninety . . . . . 32
							“ ninety & one hundred . . . . . 6
							Over one hundred* . . . . . 3
Total	985	864	1849	529	429	100	Total . . . . . 1849

## OF THE FOLLOWING DISEASES.

Abscess . . . . .	1	Inflammation of the lungs . . . . .	17
Apoplexy . . . . .	13	“ of the throat . . . . .	4
Asthma . . . . .	5	Infanticide . . . . .	2
Burn . . . . .	7	Intemperance . . . . .	32
Cancer . . . . .	7	Jaundice . . . . .	4
Casualty . . . . .	34	Liver complaint . . . . .	22
Catarrh, Bilious . . . . .	1	Locked-jaw . . . . .	2
Child-bed . . . . .	13	Mania . . . . .	4
Cramp-Cholic . . . . .	15	Marasmus . . . . .	89
Cholera Infantum . . . . .	140	Measles . . . . .	46
Cholera Morbus . . . . .	7	Mortification . . . . .	4
Consumption . . . . .	267	Old age . . . . .	107
Convulsions . . . . .	68	Organic disease of the heart . . . . .	2
Croup . . . . .	34	Palsy . . . . .	5
Disease of the spine . . . . .	2	Pleurisy . . . . .	29
Dropsy . . . . .	47	Poison . . . . .	2
“ in the head . . . . .	41	Rheumatism . . . . .	3
Drinking cold water . . . . .	1	Scald . . . . .	1
Drowned . . . . .	38	Still-born . . . . .	106
Dysentery . . . . .	12	Sudden . . . . .	30
Fever, Catarrhal . . . . .	25	Suicide . . . . .	5
“ Bilious . . . . .	76	Teething . . . . .	9
“ Intermitent . . . . .	9	Thrush . . . . .	1
“ Scarlet . . . . .	1	Ulcerated sore throat . . . . .	1
“ Typhus . . . . .	28	Unknown, adult . . . . .	48
Fungus tumor . . . . .	1	“ Infantile . . . . .	316
Gravel . . . . .	1	Whooping cough . . . . .	27
Hemorrhage . . . . .	6	Worms . . . . .	4
Hives . . . . .	1		
Inflammation . . . . .	2		
“ of the bowels . . . . .	8		
“ of the brain . . . . .	16		
			1849

\* Two of 105 and one 102 years.

(C) The colored population of this City, in 1820, according to the United States' Census, was 10,294 free, and 4,357 slaves.

By order of the Board of Health,

DAVID HARRIS, Secretary.





*Lith. of Endicott & Swett, Balto.*

THE  
MARYLAND  
**MEDICAL RECORDER.**

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ORIGINAL COMMUNICATIONS.

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**ART. I. *Observations on dislocation of the femur into the Ischiatic Notch.*** By HORATIO G. JAMESON, M. D.

**I**T will not be denied, we presume, that dislocation into the ischiatic notch is one of the most serious accidents to which we are subject. And it is, comparatively, so rare as to have eluded the skill of the profession in conducting its reduction, on any thing like rational principle. Indeed, until the sagacity of Mr. A. Cooper's mind was brought to bear on the subject, we had no clear definition of the nature of the accident; neither had we any rational means of reduction. This author has made a very near approach towards the true principle involved in the case; and has devised a plan of procedure in the process of reduction, which, in ordinary cases, answers very well. It is, nevertheless, a fact, that, he has overlooked the true philosophy involved in the present case; and, has therefore, left room for his successors to improve on his suggestions. It has been the happy lot of one of our correspondents to suggest a most important improvement, in the reduction of this variety of luxation. We allude here to a review written by doctor Samuel Annan, to be seen in the present volume, being a review of a report of doctor Warren, upon a case which was made the subject of judicial proceeding in New England. Before we proceed to point out the improvement, to which we allude, we shall here quote so much of Mr. A. Cooper's remarks upon luxation into the ischiatic notch as seems to us necessary.

*"Dislocation backwards, or into the ischiatic notch. In this dislocation, the head of the thigh bone is placed on the pyriformis muscle, between the edge of the bone which forms the upper*

part of the ischiatic notch, and the sacro-sciatic ligaments, behind the acetabulum, and a little above the level of the middle of that cavity.

"It is the dislocation most difficult to detect and to reduce—to detect, because the length of the limb differs but little, and its position is not much changed as regards the knee and foot, as in the dislocation upwards: to reduce, because the head of the bone is placed deep behind the acetabulum, and it therefore requires to be lifted over its edge, as well as to be drawn towards its socket."

Our author speaking of the reduction says, "the reduction of the dislocation into the ischiatic notch, is generally extremely difficult, and is best effected in the following manner: The patient lies on a table upon his side, and a girth is to be placed between the pudendum and the inner part of the thigh to fix the pelvis. Then the leather strap for the pulleys is placed above the knee, upon which a wetted roller is tightly applied. A napkin is to be carried under the upper part of the thigh. The thigh bone is then brought across the middle of the other thigh, measuring from the pubis to the knee, and the extension is to be made with pulleys. While this is conducting an assistant pulls the napkin at the upper part of the thigh with one hand, and rests the other upon the brim of the pelvis, and thus lifts the bone as it is drawn towards the acetabulum over its lip. For the napkin I have seen a round towel substituted, and was carried under the upper part of the thigh, and over the shoulders of an assistant, who then rested his hands on the pelvis, as he raised his body and lifted the thigh."

It is obvious upon examining the above description that by bringing the affected thigh "across" the sound one, we pull with the thigh bone at something like a right angle with the body, a little more or less as we may vary the *crossing*; it follows that, if the bone is *upwards* we may thus cause the head of the femur to move towards the acetabulum, as we apply our extension in that direction. But a moment's reflection will convince us, that this is not the true method, since, in thus bending the thigh upon the pelvis, we relax the anterior muscles, while we very unduly tighten those behind—besides it is easily seen, that there will always be some difficulty in confining the pelvis immovably, which is always a matter of primary importance. But what shall we say of cases in which the head of femur is lodged lower than the acetabulum, and the limb already too long? We are well aware that Mr. A. Cooper doubts the existence of such a thing as a luxation downwards and backwards—we shall ex-



amine that question presently; suffice it to say here, that in the case of doctor Warren, already alluded to, the leg was nearly three inches longer than the sound one.

It seems proper to notice the following observations of Mr. Cooper; he says, alluding to the method of luxation which we have just described, "I have seen a different mode practised, I shall mention it here as it shows how the muscles, opposing the pulleys, will draw the head of the bone to its socket, when it is lifted from the cavity into which it has fallen."—"An extension was made in the right line with the body; and at the same time this extension was made the trochanter major was thrust forwards with the hand, and the bone returned in about two minutes into its socket with a violent snap."

This is the nearest approach to a correct practice of any thing we have seen, up to the suggestion of doctor Annan. Here, while the limb is made tense by the extension of it, the hand, which thrust forward the trochanter major, was acting upon the principle of a fulcrum, upon the leg as a lever. A small force applied at one extremity, while the other was fixed, would overcome a great degree of resistance, since, in addition to the advantage of the most favorable mechanical arrangement, there are no muscles opposed to a force acting in the transverse and inward direction.

It is obvious that this was a sort of accidental method, the peculiar advantages of which were not understood by the operator, or Mr. Cooper who gives it a mere passing notice; and, indeed, by recommending another method, it is obvious that he considered it preferable to this. And, we believe, that in a majority of cases, this would be found to be the case—the force of a hand or two pressing upon the head of the bone or trochanter, although applied under the most favorable mechanical arrangement, could not be made to succeed in difficult cases.

It is our purpose, in writing the present article, to point out the advantages of a suggestion of doctor Annan, to which we have already alluded; we do not therefore, mean to take up, at this time, the subject of luxation of the hip. But before we proceed to the observations of the doctor, it may be necessary to say a word or two respecting the method of reduction, recommended by Mr. Cooper in cases of dislocation into the foramen ovale. According to our opinion, Mr. Cooper was the first writer who gave rational and efficient instructions for the reduction of this form of luxation. Instead of extending a limb which is already too long, Mr. Cooper applies his extending strap to the upper part of the luxated thigh, and draws the head of the bone from

within, outward. We need not, however, describe the method, nor the apparatus employed by that author, since it is precisely similar to that exhibited in the drawing accompanying this paper, differing in nothing but in the circumstance of the patient being turned upon his belly. But we shall now let doctor Annan speak for himself.

"We would treat a case of this description, on the principles recommended by Sir A. Cooper, for the management of this dislocation into the foramen ovale. The patient should be laid upon his face upon a table; the pelvis fixed by a band passing laterally from the injured towards the sound side, to a post or the wall; another band should be put round the upper part of the thigh, to which the compound pulley should be attached, and passing off laterally and horizontally, be also fastened to a post; the pulley being sufficiently tightened, the limb should be taken hold of and drawn towards the opposite side of the body, thus making a fulcrum of the band around the thigh, for the long lever of the limb to act upon; by which means the head of the bone would be forced towards the acetabulum; and if the muscles did not draw it into the socket, a small degree of force pushing it upwards, would complete the reduction."

The reader upon turning to the drawing can have no difficulty in perceiving the mode of action, and of recognizing the truth of the principle involved in this luxation. And we are doing no more than an act of justice to the ingenuity, good sense, and skill of doctor Annan, in saying, that he is the first man who ever proposed a rational method of reduction, in cases of luxation into the ischiatic notch.

It seems necessary to notice the fact here, that Mr. Cooper was the first man who suggested a correct method of procedure in the luxation downwards and inwards, and who had any thing like a tolerable plan for reduction, in luxations backward, or into the ischiatic notch. But notwithstanding the great accession of knowledge presented in the paper of that author, upon luxation of the hip, he has failed in devising an efficient method of reduction in the luxation backwards into the notch. That is, we believe, that he has not only failed in offering the best method in ordinary cases, but in cases of *downward luxation*, his method will not answer at all. Mr. Cooper probably aware of this circumstance, states his opinion, that luxation downwards and backwards, never occurs, because he has not seen a case in his extensive practice for "thirty years;" and, "if such a case does ever occur, it must be extremely rare." This fact affords a strong argument, but is by no means conclusive; and in addition

to the case of doctor Warren of luxation backwards, and downwards, there is so much probability raised by the common opinion on this subject, that there has been luxation backwards and downwards, that it amounts to a conviction. "The dislocation into the ischiatic notch has been, as far as I know, (says Mr. A. Cooper,) in every author who has written on the subject, incorrectly described; for it had been stated, that the limb was lengthened in this 'accident' and again, a gentleman wrote me from the country in these words—"I have a case under my care of injury to the hip; and I should suppose it a dislocation into the ischiatic notch, but that the limb is shorter instead of being longer as authors state it to be." In short, we think, it cannot be doubted that cases of this form of luxation do sometimes occur; we will not attempt to settle the question, whether it can only occur consecutively.

Be all this as it may, the merit of doctor Annan's improvement does not rest upon this peculiar form of luxation, (we mean backwards and downwards,) since it is obvious, we think at first glance, that the method proposed by this gentleman is the only true and really rational one, in all cases of luxation into the ischiatic notch.

There is one circumstance connected with the case of doctor Warren, which has been overlooked by our ingenious correspondent, which we deem sufficiently important to notice: The opinion has been common that luxation backwards does occur, and by turning to the case of Mr. Lovell, before he came into the hands of doctor Warren, we find that his surgeons, took the best possible method to produce a consecutive luxation; and for ourselves, we have no doubt the surgeons who first attempted to reduce this luxation, forced the head of the bone down by their unskilful efforts at reduction. "Lovell was laid across the bed, a sheet was placed around the sound limb, a towel tied round the knee of the lame one, and several assistants abducted the thighs violently; this motion being alternated with adduction." This was continued for several minutes.

To us it is as clear as day-light, that such forcible drawing out of the thigh affected, would tend to lodge the bone lower down upon the ischium. Thus by forcing the thigh violently and suddenly, we should convert it into a common lever, whose fulcrum was formed near its upper extremity, by the muscles of rotation; the effect of this operation would be to force the short end of the lever with almost resistless force downwards in the course of the ischium, and thus, and thus only, can we have any rational explanation of Lovell's case—that is, it was a luxation backwards, the attempts at reduction erroneously conducted produc-

ed a luxation of the consecutive kind—and hence, all the mystery and misunderstanding in the case. In a similar case, we have no doubt, doctor Annan's method would have succeeded, when this very singular case came into the hands of doctor Warren.

Doctor Annan has, in the paper alluded to, given us an opinion on another point connected with old luxations, which, we believe, has not been previously noticed; certainly never pointed out with any force, or in such manner as to excite attention, applied as a rule of practice; we deem his view of the subject highly important, and if generally adopted will prevent, in future, some of the disastrous consequences which have attended the indiscriminate, and unskilful attempts at the reduction of old luxations.

"A great authority in surgery, (says doctor Annan,) has given it as his opinion, that it is improper to attempt to reduce a dislocated hip-joint longer than eight weeks after the accident. We are disposed to think that in relation to this point, *a distinction should be made between those luxations of the hip in which the hip is shortened, and those in which it is lengthened.* In the former, so much force would be required to elongate the numerous strong muscles passing from the pelvis to the leg, that excessive irritation must ensue. *The stretching of the arteries, veins, and nerves, after remaining so long in the contracted state, is full of danger.* The case is different in the dislocation into the foramen ovale and the *inferior ischiatic notch*; only a few small muscles require to be stretched; and the rupture of some of their fibres, would most likely not be followed by injurious effects."

We not only fully agree with our author, that the danger in the attempts at reducing old luxations will be vastly greater, when vessels, &c. are elongated, and that elongation to be increased in the reduction. But in addition to this consideration, we should not overlook the fact, that the chances of success will be much greater, where we can reduce upon the plan suggested by doctor Annan, since there need be no elongation whatever; and, consequently, there will be no direct resistance to overcome. This view of the subject shows how vastly important the method of A. Cooper in reducing luxation in the foramen ovale, since it not only has the advantage of not stretching or elongating the parts in old cases; but, we thereby obviate one of the greatest obstacles to reduction. Thus, it is generally acknowledged that to overcome the resistance which the muscles oppose to our efforts at reduction, is one of the greatest difficulties attending the subject of luxation generally; how great then must be the advantages of that method, which effects the reduction without encountering any opposition from this source.

We need not offer any description of the drawing—doctor Annan explains the process of reduction at page 586, and the drawing will at once explain the application of the apparatus in the luxation under notice.

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ART. II. *An Essay on Pneumonia Biliosa.* By RICHARD N. ALLEN, M. D., Harford Co., Md.

Medicamenta usu comprobata, non conjecturas ingenio fictas, proponere statuo. *Mead, Monit. Med. Prof.*

OUR experience during the last four years in the treatment of bilious pleurisies, on a plan, the success of which has far exceeded our previous estimate of the powers of medicine over any inflammation of a vital organ, has given rise to the following observations. In laying these before the profession, we disclaim any pretensions to novelty, in regard to the articles employed. The arrangement of remedies, the time and manner of their administration, and the restrictions to be regarded in their employment, are the most important subjects for consideration; and to these accordingly we have devoted our principal attention. We are persuaded that a very considerable range may, in general, be allowed in the selection of the individual articles, by means of which the objects of our plan are to be accomplished; and that success depends mainly on sagacity in the adoption of this plan, with discretion in its fulfilment, by whatever means this may be attempted.

Different practitioners frequently fall into a successful treatment of the same disease, by a variety of medicinal agents of the same class. They do not afterwards feel themselves justified in laying aside, on the recommendation of others, articles with the effects of which they are familiar, and with which they have been accustomed successfully to prosecute their plans.—Impressed with these views, we have omitted to treat of several remedies, popular in the management of low grades of pleurisy, but with which we have had no experience. Such are the *Eupatorium Perfoliatum*, and the *Sanguinaria Canadensis*; to which may be added the *Asclepias Tuberosa*, said to be useful in pleurisies generally.

In looking through the records of the profession, so far as our limited opportunities would allow, we have found no satisfactory treatise on the disease under consideration. From systematic works, so far as we know, we cannot obtain any precise direc-

tion; the principal information on this subject which we have seen, being contained in the systems of *Materia Medica*. The only treatise which has fallen under our notice, appropriated expressly to the consideration of bilious pleurisies of this climate, is that of Professor Potter, of Baltimore, published in the 4th vol. of the Philadelphia Medical Recorder. From the opinions maintained in this we are compelled to dissent in many important particulars; and as the high and merited authority of the writer, entitles it to great consideration, we shall respectfully point out those differences as we proceed. There are few writers whose opinions we more highly estimate than those of doctor Potter; but professing to deliver only the results of our own experience, we must hold ourselves unshackled by authority.

The essay of doctor Cartwright of Natchez, evidently relates to a form of disease wholly different from the bilious pleurisies of this latitude. It seems to have been a sequela of violent autumnal fevers, or the remote result of a degree of miasmatic impressions rarely witnessed in this climate. We have no experience whatever in any such disease, but will venture to say, that the practice of doctor Cartwright would be far more fatal *here*, than any of our acute pulmonary affections of low or mid-dling grade, though left entirely to domestic management, or to the unassisted powers of nature.

As our own practice must derive its claim to notice entirely from its success, we feel ourselves not only at liberty, but under an obligation to state its results. Within less than four years then, we have treated on the plan hereafter laid down not fewer than fifty cases of acute pneumonia, and at least an equal number where the disease was imperfectly formed. Of the acute cases about one half were attended by hemoptysis, indicating actual lesion of the lungs. Out of the whole number we have lost only a single patient,\* *under any circumstances whatever*, though the treatment has occasionally been commenced as late as the sixth day. During the period stated, there has been no pneumonia prevalent in the district in which we have practiced, except a kind of local epidemic in the winter of 1826--7, which afforded about twenty-five of the acute cases within a period of four or five weeks, and in a very limited range of country. It will be observed that we consider the plan which we inculcated as entitled to consideration, from its almost uniform success, rather than from the extent of our experience.

In treating of the disease commonly known by the appellation of pneumonia biliosa, it will be necessary to distinguish it from

\*This patient we did not visit till the 6th day of his disease.

the other forms of pulmonary disease, and as the nature of the subject admits, the sense in which we use a term, which in its ordinary acceptation has a very considerable latitude of meaning. We shall attempt no distinction between pneumonia and pleurisy, as we believe such a distinction to be generally impracticable, and were it even possible, it could serve no practicable purpose. The lungs and pleura are for the most part simultaneously involved in inflammation, and so far as we know, no variation of practice would be warranted, though we could ascertain it to be seated exclusively in either organ. Indeed in the ordinary language of the profession, all acute inflammations both of the lungs and pleura, are comprised under the common denomination of *pleurisy*. The English term *bilious pleurisy* is, therefore, in general considered as synonymous with *pneumonia biliosa*. In conformity with this usage we shall, in the course of the following observations, use the words *pneumonia* and *pleurisy*, as synonymous and convertible.

It is however indispensable to establish between the different forms of pneumonia, a diagnosis as accurate as the nature of things will allow. Although such a diagnosis may be rendered apparently clear, by the description of well marked cases of its various forms; yet those forms, as might have been expected *a priori*, are indefinitely diversified, and pass into each other by imperceptible gradations.

The division of pleurisies now sanctioned by the general language of medical men, is that which arranges them as inflammatory,\* bilious and typhoid. It is plain that these may be variously complicated, thus a bilious pleurisy may be highly inflammatory, or it may be typhoid; while we believe that typhoid pleurisies are universally of a bilious character. As these distinctions are, however, in some degree founded in nature, and are absolutely necessary for the direction of practice, we shall proceed to trace them out as clearly as we are able.

Pleurisies purely inflammatory are in general distinguished by the absence of gastric or nervous symptoms; but chiefly and most uniformly by the strength and hardness of the pulse, and by its tendency to rise and recover its force, after having been reduced by depletion. In bilious pleurisies attended by considerable gastric disorder, the reduction of the pulse effected by a single bloodletting, generally remains throughout the course of the disease, and the force of the circulation is rarely so much in-

\*It may be proper to observe that this word is used as synonymous with *athenic*, throughout the present essay.

creased afterwards, as to require its repetition. In inflammatory pleurisies on the other hand, the morbid excitement of the arterial system is re-produced from day to day, requiring the frequently repeated abstraction of blood. In such cases, large and repeated bloodletting is indispensable to save the lungs from disorganization. It is unnecessary to say more of a form of pneumonia introduced here merely for the purpose of diagnosis.

Typhoid pneumonia is only a grade of the bilious form; and differs from it as a part differs from the whole, in which it is included. Every typhoid pneumonia is attended by the bilious diathesis: and indeed we have long been disposed to doubt whether the condition denominated typhoid can ever occur, without the previous existence of that gastric disorder commonly called the *bilious diathesis*. Let us take for example ophthalmia or phrenitis, primary, and unattended by bilious symptoms. In cases of these affections, if we carry venesection to the utmost limits compatible with the immediate existence of life, and at the same time push the rest of the antiphlogistic system to its most rigorous extent—we may indeed induce leucophlegmasia or dropsy, or we may bring on a state of chronic debility with feeble and vacillating excitement, destructive of the general health; but so far as our observation goes, it appears impossible to produce that train of symptoms commonly denominated typhoid. But, however, this may be, we believe the experience of the profession will sustain us in declaring, that all typhoid pleurisies are of the bilious form; and that their prevalence is generally attended by various other grades of pulmonary disease, all marked by the bilious diathesis.

Before concluding our remarks on the diagnosis of pneumonia biliosa, we must observe that primary attacks of pneumonia are wholly distinct from pulmonary inflammations supervening on fever. The latter cases perhaps will require little departure from the treatment demanded for the cure of the fever, except the employment of demulcents, with rigorous and continued counter-irritation by blistering.

We have declared it as our opinion, that a pre-existing bilious diathesis is indispensable to the occurrence of the typhoid state. It must be observed, however, that this diathesis is by no means inconsistent with an excitement of a sthenic character. Indeed in cases where the abdominal viscera have been previously disordered by the impression of marsh effluvia, an inflammatory tendency seems to be impressed on the succeeding pulmonary disease. Thus the winter pleurisies of low and mar-



shy countries, are, according to our observations, less liable to assume the typhoid type; and high and otherwise salubrious regions have ever constituted the principal range of typhoid affections of the lungs. These positions would seem to be invalidated by the remark of Professor Potter,\* that pleurisies south of the Potomac are more disposed to the typhoid type. Without presuming to extend our assertions beyond the limits of our observation, we may remark, that the extreme asthenic diathesis which has recently attended this and other phlegmasiæ in New England, would afford some ground for questioning the accuracy of this statement. The bilious pleurisies described by Clegghorn as occurring in the highly miasmatic island of Minorca, were, on the other hand, attended by an excitement of a strongly sthenic character; and nearly the same may be said of the cases related by doctor Cartwright† of Natchez, which were conducted to a fortunate issue under his peculiar treatment. Indeed from what we recollect of the observations of the latter author in regard to bilious pleurisy, he does not seem ever to have witnessed its complication with a truly typhoid or asthenic diathesis. We conclude that we are warranted in maintaining our general position as above stated; namely, that bilious pleurisies are most liable to assume the typhoid type, in high and otherwise healthy situations; while the same diseases, when prevailing in districts much exposed to marsh effluvia, wear a more inflammatory form, and bear depletion better. So far, however, as our observations are founded on experience, we must be understood to refer almost exclusively to the pneumonias of high countries.

In regard to the prevalence of typhoid pneumonia in high situations, this disease bears an analogy to dysentery and typhus. They all seem in general to result from a miasmatic impression, too slight to be developed in immediate fever, in its regular forms. The account of the origin of pneumonia biliosa given by Professor Potter, in the essay above referred to, seems to be singularly just and accurate—that it is “the offspring of a low temperature, engendered upon miasmatic predisposition.”

Bilious pleurisy very rarely occurs in infancy, and of the typhoid form we do not recollect ever to have seen an example occurring under the age of six or eight years.

Professor Potter says that it is also rare in negroes, and that he never saw the disease fully developed in one. This observation we cannot sanction. It may occur less frequently among

\*Philad. Med. Recr. vol. 4. †On Pneuma. Biliosa. Philad. Med. Recr. vol. 10.

negroes, but even of this we doubt—the typhoid form which prevailed in 1814—15, was fatal to great numbers of negroes in this county.

From what has been heretofore said, it may be inferred that bilious pleurisies are liable to be connected with every grade of excitement. We confess, however, that we have never seen a solitary case of pleurisy strongly marked with the bilious diathesis, which would bear a degree of depletion, especially by the lancet, at all approaching to that which is necessary in cases of purely inflammatory disease of the lungs, unattended by bilious symptoms. Cases of the latter kind are extremely rare, an immense majority being stamped with the bilious character, and requiring but moderate depletion, especially by the lancet.

It may be laid down as generally true, that pneumonia biliosa has a much stronger tendency to the typhoid type, when it prevails as an epidemic. Sporadic cases, however strongly marked by the bilious diathesis, or in whatever situations they may occur, do not often assume typhoid symptoms. An epidemic pleurisy of inflammatory type, is certainly a very rare occurrence, especially in high countries. We cannot however agree with doctor Miner,\* of Connecticut, when he expresses the opinion that all epidemics are of the asthenic character—the observation appears to be too general, though true to great extent.—The grades of action occurring in the same epidemic pleurisy are liable to considerable variation, yet every individual case should be treated with a cautious reference to the prevailing diathesis.

Having observed with some care, the character of the seasons in reference to the prevalence of pneumonia biliosa, our observation allows us to say but little on this subject. In low and marshy countries, it appears occasionally to prevail as a sequela of the autumnal fevers. In the high situations where alone it has been the subject of much observation with us, it seems to have no connection whatever with the character or diseases of the preceding season. In regard to the temperature of the winters in which it has most frequently prevailed, we can only say that it is most apt to occur either during or immediately after intensely cold weather. Winters uniformly mild seem to be unfavorable to its prevalence. This is generally limited chiefly to the months of January and February, though the disease occurs to greater or less extent throughout the cold season.

\*On Fevers, &c. Essay 2.

Cases of bilious pneumonia in which the disease appears to be chiefly local, the constitutional affection being but imperfectly developed, rarely if ever, assume the typhoid type. Although perfectly familiar with such cases in practice, we are at a loss to describe them with sufficient accuracy to others. They are perhaps never ushered in by a distinct chill; the gastric symptoms are less prominent, and constitutional disturbance much less, the patient being rarely confined to bed; the pulse is less rapid, but more resisting, and at the same time less vibratory. In fine this form of pneumonia seems to be chiefly local, but is attended by slight gastric disorder, and by moderate, but sthenic reaction. It is of frequent occurrence, but never epidemic. It generally yields to one bloodletting, a blister, and the use of the antiphlogistic regimen with laxatives and demulcents, for a few succeeding days. We have never known it to require any other treatment, nor any considerable variation of the course pointed out. Its duration is wholly indeterminate, though commonly limited under judicious management, to a few days. The local disease is however obviously liable, if neglected, to become serious and protracted.

**SYMPTOMS.**—Commonly, but by no means universally, the invasion of pneumonia biliosa, of whatever grade is marked by a distinct chill. This is sometimes substituted by slight sensations of chilliness, frequently of considerable duration, and occasionally extending even to several days. Premonitory symptoms sometimes precede the attack, similar to those which precede the occurrence of other febrile diseases, but generally accompanied also by catarrhal affections. It happens indeed not unfrequently, that the severest forms of bilious pleurisy supervene on catarrh, by gradual and insensible aggravation of the catarrhal symptoms. Having repeatedly observed this we are compelled to dissent from the opinion expressed by doctor Tulley, of Albany,\* who, in order to maintain a specific distinction between catarrh and pneumonia, asserts that the precise period of the formation of the latter disease is always ascertainable by distinct symptoms. We have so often witnessed the insensible transition of catarrh into pneumonia, that we can scarcely conceive how it could ever have been denied, except for the support of a pre-conceived opinion. Every practitioner should regard a severe catarrh as the possible beginning of pneumonia; nor are there any diagnostic symptoms by which the transition of the former into the latter can

\*On the Diagnosis of Catarrh and Pneumonia. *Philad. Med. Record.* vol. 14.

be distinctly ascertained. Whether the diseases be *specifically* distinct, is a question which must result in a futile discussion about *essences*, as distinguished from *phenomena*. If, as doctor Tulley maintains—and we are not disposed to controvert his position—catarrh be confined to the mucous membranes, while pneumonia involves the parenchyma of the lungs, it is plain that in passing from the former to the latter, the disease in augmenting its violence and extending its seat, only changes its name, without the slightest change in the nature of the morbid action. Whenever pneumonia commences without chill, which it does in a considerable portion of cases, it in general arises by gradual transition from catarrh.

It occasionally happens, even in the most acute cases, that there is no cough whatever, but in the great majority, it is from the beginning a troublesome symptom. Sometimes it is almost incessant, greatly aggravating the pain, and producing extreme distress.

The expectoration is at first scanty, but becomes more copious as the disease advances. In perhaps about half of the well marked cases, the sputa are streaked with blood, nor does this symptom at all darken the prospect of recovery. It is observed, however, by Professor Potter, that the appearance of *grumous* blood in the matters expectorated, is an unfavorable symptom. Our own experience has thrown little light on the science of prognosis. The sputa are also frequently, if not generally, tinged with bile, but this circumstance being common, can afford no ground for any conjecture as to the event. We have not observed the spitting of blood attending pneumonia to render the patients peculiar liable to chronic diseases of the lungs.

Thoracic pain is an universal symptom, but it occupies various parts of the chest. Sometimes it is confined to a single spot, at other times it is diffused through various parts of the thorax. The breast and sides are its most common seats, but it occasionally invades the back, about the region of the lower ribs, and wherever it may be seated, very frequently extends through the breast to the scapulæ. The pain is perhaps universally aggravated by a full inspiration, but this circumstance is by no means diagnostic, as is often supposed. We have sometimes observed the pain attendant on the most transient attacks of colic, as well as that accompanying other abdominal affections, to be also aggravated by inspiration.

Pain of the head attends a certain proportion of cases, perhaps not more than one third or one half the whole number. It seems to be purely symptomatic of the gastric or pulmonary dis-

orders, seldom continues beyond the early stages, and presents no distinct indications in the treatment. We have never known it to terminate in phrenitis nor has it ever required any other remedy besides a dark room, an elevated position of the head, and blisters to the neck. Professor Potter observes that the pain of the head is in inverse proportion to the thoracic pain, but we must confess that we have never seen any thing to warrant such an assertion.

It has been said that in the epidemic of 1814—15, and perhaps at other times, the pain has been observed to attack the most distant parts of the body, as the upper and lower extremities, while the lungs were the real seat of inflammation. To this we have seen nothing analogous.

In the fatal case of pneumonia to which we have above alluded, there was a total absence of pain for many days before death. A progressively increasing difficulty of respiration, and the rapidity of pulse by which it is generally attended, were the only unfavorable symptoms which occurred till within a few hours of dissolution. The skin was uniformly warm and moist; the expectoration copious, free, and in every way favourable. The disease of the lungs seems to have run on to disorganization, while the condition of the general system was in every way favourable to recovery.

The state of the respiration we regard as far more important in the prognosis, of pneumonia, than all the other symptoms together. It is impossible, however, for laborious breathing to continue long without seriously affecting the pulse.

The tongue is perhaps uniformly coated with a yellow fur. If the disease should terminate without the supervision of typhoid symptoms, which happens in a great majority of cases, the appearances of this coat will be but little changed during its progress. The cleaning of the tongue at its tip and edges is one of the earliest and most decisive indications of a favourable crisis. Where the typhoid condition supervenes, which frequently occurs in protracted cases, it becomes first brown and dry, and afterwards black, or of a smooth shining red, as if covered with an adventitious pellicle. Here again, a change from these appearances towards the natural condition, will afford the most decisive sign of convalescence.

In a considerable number of cases, perhaps in nearly one half, the skin, though preternaturally warm, is relaxed and moist from the beginning. It is however often dry and constricted, but this condition, will rarely resist for many hours, the means for producing perspiration hereafter to be mentioned. Yet in

some cases the skin remains obstinately dry for several days, and here the other symptoms cannot be controlled by any means perfectly, till perspiration be excited. A free expectoration commonly soon follows a copious diaphoresis, but seldom takes place while the skin remains constricted.

The dejections are almost uniformly bilious, and for the most part retain this character for several days from the attack. The colour of the skin and eyes, and the serum discharged from blisters, are frequently concurrent signs of the bilious character of the disease.

The condition of the pulse admits of very considerable variety. It is generally both quick and frequent, and possesses a jerking or vibratory character. This is, however, very distinct from the hard, tense, and resisting pulse, attendant on pure sthenic inflammation. Upon pressure, the resistance is perceived to be slight and feeble—in fine, the pulse resembles that accompanying *irritation*, rather than that attendant on true sthenic excitement. Sometimes though full, it yields to the slightest pressure—this kind of pulse has been significantly called *inflated* or *gaseous*.

In point of frequency the pulse is very various, ranging from the natural standard, or a point but little above it, to 120 in the minute. Occasionally it is nearly natural. Its average rate may be about 100. A very rapid pulse is one of the most unfavourable symptoms in this, as it is indeed in most other diseases.

Unless typhoid symptoms occur, pneumonia biliosa commonly terminates in from seven to fourteen days. Its duration within those limits is wholly uncertain and indeterminate. If the typhoid condition should supervene, it will generally be protracted for one or two weeks longer.

#### TREATMENT.

1. *Venesection*.—It is unnecessary to say that this remedy is by no means universally required in bilious pleurisies, as this fact is known to every practitioner. When the disease is epidemic or prevalent, it is in general—in high situations perhaps always—of less inflammatory grade, and greater caution is required in the employment of sanguineous depletion. It is, however, probable that no season ever occurs, the prevailing diathesis of which is so uniformly asthenic, as wholly to preclude the use of the lancet in every case. Even in the epidemic pneumonia of 1814—15, which assumed a low grade of action by far more constantly than any other ever witnessed here, it was said by the most judicious, discriminating, and successful practitioners, that bloodletting was occasionally necessary and beneficial.—

But where nearly all the cases were of extremely low grade, a high degree of sagacity was required to distinguish the very few examples allowing a departure from the general plan of treatment; and a failure in this discrimination was almost uniformly, and very quickly, fatal. The pulse affords the only tolerable safe criterion with which we are acquainted; but in all cases of the least doubt, venesection should be omitted during the prevalence of a typhoid pneumonia. Bilious pleurisies often occur and sometimes prevail, of a synochous or middling grade, where the state of the circulation indicates a condition very nearly balanced between the sthenic and asthenic. In such forms of disease, one bloodletting will be admissible and beneficial in a portion of the cases, while others will not admit the use of the lancet, and a certain proportion will assume symptoms decidedly typhoid. In the cases of this kind which may require bloodletting, a repetition of it will very rarely be borne. The quantity to be abstracted varies from 6 or 8 to 16 oz., but should seldom exceed the latter amount. Indeed in cases so near the line between the sthenic and asthenic forms of the disease, we have not observed the omission of venesection where we should at first have judged it proper, to be attended by any fatal consequences. We have sometimes witnessed cases of this kind, where by the use of copious warm dilution and external heat, occasionally joined with saline or other medicines, a copious perspiration has been excited before our arrival. We have, on this account, forbore to bleed, and the cuticular discharge thus produced, aided by cathartics, &c. with the antiphlogistic regimen, has succeeded in permanently reducing the excitement to a proper grade. On the other hand, the consequences of employing the lancet a single time in cases of an asthenic character, are irretrievably disastrous, and very frequently fatal. It has been said\* indeed that cathartics will frequently fail to operate in bilious pneumonia, until after the use of the lancet. We have never seen a solitary example of this kind.

We have enlarged on this subject for the purpose of enforcing the position before advanced; *that in every doubtful case, it is better to refrain from the lancet.* It may also be here remarked, that every bilious pleurisy of a middling grade tends to the typhoid type. While the system after the first depletion, scarcely ever recovers its original excess of excitement, as it does in purely sthenic diseases, the powers of life are sometimes liable to sink with unexpected and fatal rapidity.

\*By Professor Potter, Philad. Med. Rec. vol. 4.

There are other evacuations—by emetics, cathartics, and diaphoretics—indispensably required in all cases of bilious pleurisy; and every case of the slightest doubt, bleeding should at least be postponed till the effect of these has been ascertained. An irritation very closely resembling sthenic excitement, will occasionally be produced by the action of morbid matters on the surface of the alimentary canal. Such a condition can be redressed by nothing but emetics or cathartics, and these will often remove all appearance of necessity for the use of the lancet.

The inflammation attendant on pneumonia of low or middling grades, rarely tends to disorganization. Having sometimes been called to visit patients as late as the 6th day, we yet have scarcely ever witnessed a fatal event. But even if such inflammations did tend to disorganization as rapidly as those of a truly sthenic character, this deleterious tendency would be greatly increased by an undue exhaustion of the powers of life. While the general system would be stripped of its power to struggle against the local disease—a power which, when not impaired by injudicious treatment, will often be exerted in typhoid inflammations with wonderful effect—the want of balance between the general circulation and that of the part would remain the same, except so far as it might be aggravated by the loss of that power which would have tended to restore the equilibrium.

We believe that a misjudged attempt to subdue the local inflammation at the expense of the powers of life, very frequently leads to fatal results. Impressed with this sentiment, we are disposed to think that a uniform and unvaried mode of practice could be pursued which, *on the whole*, would be more successful than the present practice of the profession. A single mercurial cathartic or emeto-cathartic, followed by a blister, and by copious warm dilution with the diaphoretic regimen, we believe would conduct more cases of bilious pleurisy to a fortunate termination. Under the present practice, more are lost by indiscriminate depletion, resulting either from want of sagacity in the practitioner, or from theoretical prejudices than would perish from the omission of more energetic practice in cases really requiring it. The more nearly we approach the sphere, influenced and controlled by the authority of the schools—an authority which though rightful is, from the common tendencies of human nature, always abused—the more powerful these theoretical prejudices become, and the more dangerous is their influence.

In that class of cases mentioned at the outset, where the local affection exists without the full development of the consti-



tutional excitement or gastric disturbance, the lancet is very generally, though not universally required. There is in such cases no affection of the general system which can give rise to a typhoid tendency. Even in these cases, however, a repetition of bloodletting is rarely required.

The use of the lancet should be followed by a blister, and a mercurial cathartic or emeto-cathartic; and these by laxatives and demulcents, with a refrigerant and antiphlogistic course, continued for several days.

A condition analogous to that existing in pneumonia imperfectly developed, occasionally occurs on the decline of those attended by established gastric and constitutional disorder. When the affection of the general system has worn away, there is no longer any typhoid tendency, and the local disease produces an excitement of a sthenic character. This may require venesection, even in cases which were before typhoid.

We think that bleeding should never be practised after the pain has materially abated, and expectoration has become free; nor during the existence of a general perspiration.

In every critical case where the lancet is used, the pulse should be cautiously and constantly examined during the flow of blood, which should be stopped as soon as the pulse begins to flag. We think the operation should be performed while the patient is sitting up, as in the recumbent posture the vessels may be evacuated in too great a degree, without an immediate effect on the pulse to any proportionate extent.

Professor Potter, in the essay before quoted, recommends small and repeated bloodlettings—from 3 to 8 oz. at each operation, and says that it may occasionally be repeated with benefit, even as far as *ten times*. We more than doubt the propriety of such practice. Where the excitement could be sufficiently reduced by the abstraction of 3 oz. of blood, we are clearly of opinion that the same object could be far more safely and beneficially effected by other evacuations, more congenial to the nature of the disease. Indeed doctor Potter admits that cathartics would answer if they could be brought to operate before the use of the lancet. Speaking only from what we have ourselves seen, we must repeat our former assertion, that we never saw a solitary example of their failure; nor can we readily conceive that an excitement so very easily reduced, could in any way interfere with their operation. It seems to us, that the effects of bloodletting in conditions so near bordering on the asthenic, would be to interrupt perspiration or expectoration, and to interfere with the salutary operations of nature. In almost every case of this kind

after a little previous evacuation from the alimentary canal, perspiration might be easily excited.

This practice is also liable to another very important objection—we mean the great difficulty attendant on its regulation. The Professor says that these small bleedings may be advantageously practised, where the loss of 10 ozs. of blood “would jeopardize the patient’s existence.” Now we are clearly of opinion, that where the loss of 10 ozs. of blood would be attended by so much peril, it is the most prudent course to forbear the evacuation altogether. But if upon opening a vein, the pulse should flag on the loss of 3 ozs. we would conclude that we had mistaken the case, and that the operation was at least unnecessary, if not improper. We should esteem it fortunate however, if we had stopped at the proper point, and no mischief had ensued.

As venesection is by far the most important subject connected with the treatment of that form of pneumonia which we are considering, we may be allowed very briefly to recapitulate. We have observed then, that this evacuation is less frequently required in prevalent than in sporadic pleurisies—that it is in general necessary in those cases where the local affection is not attended by a fully developed constitutional or gastric disorder—that its repetition is rarely advisable—that the consequences of excessive bloodletting are frequently fatal, while its omission in cases in the smallest degree doubtful, is not followed by consequences by any means so serious; and that it is consequently better in every doubtful case to forbear, and trust to the other evacuations—that the pulse is the only tolerably safe criterion by which the use of the lancet can be regulated, and that this should be cautiously examined during the flow of blood, which should be arrested the first moment that it begins to flag.

It cannot be questioned that there are many cases where the indications for bloodletting are so clear, that its propriety is easily determined, and would be apparent at first sight, or on the slightest consideration. It is in doubtful and difficult cases only, that complicated considerations must enter into our estimate. In such cases the importance of our judgments is in exact proportion to the difficulty of forming them, and human existence is often suspended on every step. It is to the management of these that we have ventured to apply the above observations, and for their length we feel that we owe no other apology, than our conscientious conviction of their importance.

2. *Emetics*. This class of remedies is of great importance in the treatment of bilious and typhoid pleurisies. Besides their general agency in breaking up or counteracting the morbid ac-

tion. they unload the stomach, produce a salutary effect on the pulmonary circulation, and above all, powerfully assist in producing perspiration. In order, however, that they may effectually answer the last and most important purpose, it is necessary that they should be immediately followed by suitable diaphoretics, with copious warm dilution, and external heat by means of warm covering, &c. We do not remember ever to have used more than a single emetic in any one case; but in case of obstinate dyspnœa, or continued nausea, &c. we would repeat the remedy, provided the general strength remained sufficient to sustain its operation. In the latter stages of this, however, as of all other diseases having the slightest asthenic tendencies, emetics, and especially antimonial ones, should be used with great caution. The necessity for this we have frequently seen exemplified.

We do not know that in bilious pleurisies, there is any state of the lungs which precludes the use of emetics, or interferes with their beneficial operation. The existence of hæmoptysis, which occurs in a large share of cases, affords no counter indication; and the pain is rather relieved than aggravated under this action.

Whenever venesection is judged proper, emetics, if used at all, should follow that operation; which is indeed a general rule, equally applicable to all other cases. In cases of high excitement, we should be disposed to omit the use of emetics, unless there was some very important indication for their employment, and to rely chiefly on cathartics, with the other remedies hereafter to be mentioned.

In many cases we have given an emetic and mercurial cathartic in combination. Where the patient is not particularly infirm and debilitated, when the disease is in an early stage, and when the grade of excitement is such as to bear its operation, we commonly use a combination of tartar emetic and calomel—Cal. gr. x. to xv. Tart. emet. gr. ij to iij. If the patient be infirm or the disease be far advanced, or if the particular case or prevailing diathesis be asthenic, we use the following according to circumstances—

Calomel gr. x.

Ipeca. gr. xv. to xx.

Tart. Emet. gr. j.

Calomel x. to xv. gr.

Ipeca. gr. xv. to xx.

Whichever of these doses may be used, it is given all at once in some consistent vehicle, and a draught of some warm fluid immediately after it. Its operation is then managed as that of any other emetic. After its action as an emetic, tea, broth, or other warm fluids are freely given, to encourage its cathartic

operation. If after 4 or 6 hours it should be found not to act sufficiently on the bowels, castor oil or salts and senna should be given in divided doses, and at intervals of 3 or 4 hours, till the bowels be freely evacuated. These measures should not however interfere with the adoption of the diaphoretic medicines and regimen, or the other means hereafter to be pointed out. The above forms have great advantages over the ordinary emetics given in divided doses, and in the fluid form. For the administration of the latter very special directions are necessary; and such directions, whether written or verbal, are sometimes misapprehended, to the great detriment of the patient, and the alarm of those around him. Besides there are at many places no means for writing directions, or when disease is prevalent, the practitioner may be in haste. The above forms used with discretion are, so far as we have observed, uniformly safe and efficacious.\*

On reviewing our actual practice, candour obliges us to say in conclusion, that in a considerable share of cases, we have dispensed with the use of emetics in pneumonia biliosa. This has been the case particularly, in those where the constitutional and gastric disorder has not been great, and where the grade of excitement has been somewhat elevated. We think that they are generally necessary in bilious pleurisies when prevalent, even the bloodletting should be premised. In the lower grades of the disease, they may be considered as generally indispensable. In the epidemic of 1814—15, they were universally regarded as remedies of primary importance, and as constituting an essential part of the curative progress.

3. *Cathartics*. These remedies are far more universally required in the cure of bilious pleurisy, than the class of which we last treated. There is perhaps no case whatever—and one could scarcely be supposed—in which they are not necessary to greater or less extent. If any such case existed, it might perhaps be found in the complication of typhus syncopalis with pneumonia, or of the latter with such extreme debility at the outset, as would oblige us to resort at once to the use of stimulants and external irritants, without any previous evacuation.—Such a case we have never seen.

Sometimes however, when called late in cases of a decidedly asthenic character, yet attended by considerable bilious disorder, we have not thought it prudent to use any immediate eva-

\*If a fluid emetic be given in the ordinary way, a dose of calomel may be given as soon as the stomach becomes composed after its operation, and after this, other cathartic medicines as above directed.

cuation. Under such circumstances, it has been our uniform practice to give a single dose of calomel, and immediately to enter on a course of stimulating diaphoretics, with assiduous nutriment, and occasionally stimulants and tonics. It is superfluous to say that in such cases, as in all others, blistering is an essential part of the means of cure. Under this plan the evacuation to be effected by the calomel is suspended for many hours, and while its beneficial effects on the biliary secretion are fully obtained, time is given for the resuscitation of the powers of the system by the means above designated. Its ultimate effect is the production of two or three copious and consistent discharges, of a dark and bilious appearance. These are not followed by any diminution of strength, but produce a considerable abatement of the disease. By the continuance of the other parts of the plan, strength is commonly gained sufficient to sustain the cautious evacuation of the bowels afterwards from day to day. For this purpose calcined magnesia and rhubarb, combined or separate, are the most suitable remedies.

The degree of catharsis required in bilious pleurisies must of course be very various, depending on the extent and continuance of the bilious symptoms, and on the strength of the patient. In a very great majority of cases, however, a single active purgative of calomel, or an emeto-cathartic as above directed, followed by castor oil or salts and senna, will be sufficient. One or two discharges daily should afterwards be procured by the use of aperients. To effect this object we have commonly given 5 grs. of calomel every other evening, and such additional laxatives every day or every other day, as the symptoms might seem to require. Of these, small doses of castor oil, rhubarb, or calcined magnesia, are the best. When the strength has declined considerably, rhubarb is the most safe and manageable aperient. In such cases, as the debility becomes augmented, we omit the doses of calomel, and for each aperient add 2 or 3 grs. of calomel to about 15 grs. of rhubarb; or when the strength is exhausted to a still greater degree, rely on rhubarb alone, assisting its operation if necessary by enemas.

The excessive use of cathartics, and their continuance into late a stage of the disease, are errors easily committed, and we believe by no means uncommon. When the strength is sinking, no bilious symptoms whatever can justify the continuance of active purging, or large doses of calomel. Though the tongue may be thickly furred, and the discharges morbid, yet these symptoms under the cautious and moderate course above recommended, will *wear away* against the time for the natural crisis.

The disease can not in general be *forced* to an earlier termination—except indeed a fatal one—by any treatment, however, energetic. Indeed by an injudicious energy in the latter stages, the gastric symptoms will be aggravated; partly by the disturbance of the digestive organs which such a course cannot fail to produce, and partly by exhausting those powers of the general system by which alone such disorders can be effectually redressed. We think that the gastric disturbance attendant on this and other febrile diseases is frequently aggravated, by pushing the use of calomel and other cathartics beyond its proper limits.

The moderate use of purgatives in bilious pleurisies does not at all interfere with either sweat or expectoration. On the other hand, it tends to promote both these salutary discharges, by diminishing the degree of morbid action, and thus affording a more favourable opportunity for the exertion of the restorative powers of nature.

It may be observed, that in cases of extreme and dangerous prostration all evacuations should be avoided, and our dependence placed solely on stimulants and external irritation, until the powers of life be in some measure restored.

4. *Diaphoretics*. These are remedies of high importance in the treatment of bilious pleurisies. They stand next to those required for the evacuation of the alimentary canal, and for the purpose of counter-irritation; but form an indispensable portion of any complete and successful plan. They should be accompanied by plentiful warm dilution, without which they would probably possess but little efficacy, and which alone would, we believe, be more effectual in exciting perspiration, than any other medicines whatever without it. Where an emetic has been given, their use should be commenced immediately after its operation. If a cathartic alone be relied on for the evacuation of the alimentary canal, the diaphoretic regimen may either be postponed till after its action, or commenced as soon as it is given, according to the grade of excitement which may exist. If this be such that its reduction would afford a condition of the system more favourable to the sweating process, it will be well to adopt the former method; but if the grade of excitement be already suitable for the action of diaphoretics, the sweating regimen may be adopted as soon as the first cathartic dose has been administered. Our practice has commonly been this: where an emetocathartic has been given, we have commenced the sweating regimen, as soon as its emetic operation has ceased, at the same time applying a blister to the thorax—where a cathartic alone has been used, we have at first given a full dose of calo-

mel, postponing other cathartic medicine for a few hours, applying a blister, and at the same time beginning the diaphoretic course.

When these means fail to excite an early perspiration, their failure will sometimes be attributable to an error in the application of diaphoretics, by using such as increase the excitement to undue extent. In this case the evil may be redressed by substituting antimonials or other medicines of a more debilitating kind. If, however, the skin should continue dry without any such fault in the degree of excitement, the addition of steam by introducing bags of boiled corn, potatoes, &c. under the bed-clothes, will frequently succeed. Bottles of hot water may at the same time be applied to the feet, &c. whenever their application may be judged necessary.

We have frequently observed a combination of two or more diaphoretic medicines to succeed, where those used singly have failed, though carefully accommodated to the grade of action. Thus the efficacy of *serpentaria* is much increased by the addition of *sp. nit. dulc.* and especially of the acetate of ammonia; while with the *sp. corn. cerv.* or carb. ammonia, it forms a combination of well known efficacy in the lower grades of bilious pleurisy. A combination of acetate of ammonia with the *sp. nit. dulc.* we believe to be superior in certain states of excitement, to either medicine separately administered. The compound formed by adding *both* of them to an infusion of *serpentaria*, is also a diaphoretic of great power, when judiciously accommodated to the state of the system. In higher grades of action antimonials, alone or combined with nitrate of potash, are the best diaphoretics.\*

Dover's powder, though a useful diaphoretic where its anodyne action also is desired, would be inadmissible, *for this purpose*, in any form of pneumonia; as the opium would tend to obstruct expectoration, and other salutary processes.

Whatever diaphoretics may have been used at first, it generally becomes necessary to vary them in the progress of the disease, in order to accommodate them to the progressive

\*It may be here observed, that in those cases where the skin is moist from the beginning, warm dilution, with moderately warm covering, will in general be sufficient, without any diaphoretic medicine. Indeed after blistering and the first evacuations, such cases often require no medicine whatever, except such mild aperients as may be necessary to preserve an open state of the bowels. So where diaphoretic medicine is given, it will generally suffice to administer a dose whenever there may be a tendency to dryness of the skin.

subsidence of excitement which commonly occurs. Thus, if antimonials and nitrate of potash were used at the commencement, it might afterwards become necessary to substitute for them in succession, the acetate of ammonia, the sp. nit. dulc. and sometimes towards the close, even serpentaria, camphor, and ammonia. Some change is very generally required, but the only rule by which it can be regulated is this—that the diaphoretic medicines used at any period of the disease must be accommodated to the existing state of excitement.

We know of no definite rule as to the length of time during which the sweating process should be continued. The degree of perspiration required in the beginning of acute attacks, is not a mere moisture of the skin, but a free and copious sweat. We are disposed to think, however, that an attempt to sustain this by dilution and external heat should rarely be continued longer than a day or two. If its effects be salutary, the disease will be materially abated within this period, and the longer continuance of a profuse cuticular discharge would only add to the debility, without producing any beneficial effect.

An open state of the skin may afterwards be preserved by mild diaphoretics, the diluents may be relinquished, and the external heat be accommodated to the feelings of the patient. It is, however, obvious that the diminution of the discharge by the skin should be effected gradually as its sudden suppression could not fail to be attended by the most disastrous consequences.

In the state of debility which often occurs towards the close, a cold infusion of serpentaria, or of this combined with quassia, will have a salutary effect. But it not unfrequently happens that an excited state of the system, attended by hot skin and an irritated pulse, occurs in the decline of bilious pleurisies, even of the typhoid type. In such cases the above remedies would of course be improper, and indeed we have generally thought it better to refrain from all medicine except occasional doses of rhubarb, &c. for the regulation of the bowels. With a due attention to this object, and a light and careful diet, the irritation will commonly wear away in the course of a few days.

Warm infusions of sage, hyssop, balm, dittany, common tea, &c. are suitable diluents. Linseed-tea is commonly added, on account of its demulcent qualities. In low states of the system, wine-whey is excellently adapted to the same purpose; serpentaria alone or variously combined with camphor, ammonia, &c. being at the same time administered.

5. *Stimulants*. Besides the stimulating diaphoretics used in the lower grades of bilious pleurisies, it becomes occasionally



necessary to resort to a direct stimulant course, similar to that pursued in typhus fever. Where these remedies are decidedly indicated, they have not the slightest tendency to increase the local affections. On the other hand, we have often observed them to produce the most favorable effect on the pulse and skin, with an evident and material abatement of the local disease.—Wine, brandy, serpentaria, camphor and ammonia, are the stimulants principally used. While these remedies are administered, no other diaphoretics are required, but they should in general be accompanied by a regimen calculated to determine their action to the skin.

As was before observed, tonics are frequently necessary towards the close of the disease. Of these, cold infusions of serpentaria, or quassia, or of both combined, with the occasional addition of elixir of vitriol, are perhaps the best. They should, however, be used with caution, and during their administration, the diet should be light, and the bowels should be carefully regulated. Should any febrile irritation occur during their employment they should be immediately relinquished, while the bowels should be more freely opened, and if necessary, some febrifuge given.

6. *Blisters*. We regard these as remedies of primary and essential importance in every form and grade of acute pulmonary inflammation. The theoretical objection grounded on their supposed liability to increase the excitement, we regard as wholly futile. Any tendency of this kind is vastly overbalanced by the great alleviation of local disease which they almost uniformly produce; and indeed, the system may be at once reduced to a state proper for their application, by means of venesection, &c. Even in the most inflammatory cases of pleurisy, we are convinced that they ought immediately to succeed the first evacuations. But, however, this may be, we think there can be no reasonable doubt of their high and paramount utility in the early stage of every case of pneumonia biliosa. We must therefore enter our serious protest against the limitations which Professor Potter, in his essay on this disease, has imposed on the use of blisters.

It has been our universal practice to apply a blister immediately after venesection where admissible, and the administration of the first evacuates. Thus used, they often at once subdue the pain, and scarcely ever fail to produce a most material alleviation of this and the concomitant symptoms. We think that their application to various parts of the thorax should be frequently repeated, as long as the pain or other local symptoms

continue urgent. In cases of violent and rapid disease, a new one should be applied, perhaps as often as once in every twenty-four hours, until the local symptoms are removed, or materially mitigated.

Even during convalescence, a blister should be kept running on some part of the chest as long as there remains the least pulmonary affection or cough.

In cases of great prostration, they are applied to the extremities, &c. as in typhus fever, for the purpose of rousing the system, and elevating the standard of excitement.

7. *Opium*. In the essay of doctor Potter, already so often referred to, the author declares that he "notices opium only to reprobate it." We are constrained to dissent entirely from the opinion on which this denunciation is founded. When the cough is urgent, as it frequently is, we know of no other medicine but this which is capable of controlling it. In such cases, therefore, the use of opium in some form is indispensable.—Theoretical objections founded on its liability to increase excitement, or its tendency to arrest expectoration, seem to us to possess no weight, where the patient is harrassed by violent and distressing cough. The first objection may be obviated by combining it with ipecacuanha and nitrate of potash, or with antimonials. Though the second may be in some degree true, yet we are persuaded that this evil is much more than counterbalanced by the control or suppression of the cough. This is frequently such as to produce the most violent and continued agitation of the lungs, which cannot fail to aggravate the local affection, and to interrupt every salutary process, to far greater extent than opium when judiciously used. In medicine, as in all other practical departments of life, we are often reduced to a choice of evils; and this is probably our situation in the cases of which we are speaking.

In a great portion of cases it will be advisable to give a dose of Dover's powder or some similar opiate every night, in order to procure such a respite from cough, &c. as will enable the patient to rest. If we should be administering any nauseating diaphoretic, such as antimoniated nitrate of potash, &c. a simple opiate may be given with one of the doses. If also the grade of excitement be low, it will generally be better to give the opium uncombined; as no inordinate excitement can be apprehended, and an excessive determination to the skin might be injurious.

Where the cough is more urgent, an opiate as above advised may be required at intervals of eight or twelve hours. In some

cases it is violent and nearly incessant—here moderate doses of laudanum should be given with some diaphoretic draught, at intervals of four or six hours. Supposing a draught of acetate of ammonia to be given every three hours as a diaphoretic, from fifteen to twenty-five drops of laudanum, according to the urgency of the cough, may be added to every other dose. In the same way it may be combined with any other diaphoretic, regulating its administration on the principles above stated.

In advising the use of opium in the above manner, we speak from much and very satisfactory experience, though aware that we are at variance with high authority. We can only express our firm conviction that if used with discretion, it will be found to be a medicine of great utility, and that the ill effects attributed to it will rarely be experienced—never to any serious extent. We have not found it to interfere with perspiration, or any other salutary discharge; nor under the restriction expectoration above designated, will it ever produce an injurious increase of excitement, or in any way aggravate the local disease.

We are persuaded that inordinate limitations have been imposed on the use of opium, from objections purely speculative and theoretical, unsanctioned by experience. This circumstance has arisen principally from viewing diseases simply as *sthenic* or *asthenic*, in conformity with the partial theories of the late doctors Brown and Rush, to the exclusion of the numerous collateral considerations, often indeed subordinate to these, yet of great importance in the management of almost every case. In cases of high sthenic excitement, or of low typhous debility, it may sometimes suffice to direct our views almost exclusively to those primary objects; but cases are by far more common where the excitement is not on either extreme, and where other symptoms claim our principal attention. As every morbid process, if not controlled, either by nature or art, naturally leads to some other process of the same kind, or sometimes even to lesion of structure, the control of *symptoms*\* becomes an object of high, often of paramount importance. Of all the medicines by which we are enabled to exert a control over the distressing symptoms occurring in disease, there is none so powerful as opium; and though, like every other active medicine, it is susceptible of abuse, yet it is important that the limits of its use be not inordinately restricted. In nearly all cases where the state of excitement is not highly sthenic, any inconveniences attendant on its employment may be obviated by means such as are above pointed out.

\* Which are but the signs of such morbid processes.

A fixed affection of the head might indeed constitute a serious objection to the use of opium in any form, or for any purpose; but we do not recollect to have ever seen this occur in the disease under consideration. The pain of the head so common in the beginning, seems to be purely sympathetic, and almost uniformly yields to the first remedies employed. Exceptions may certainly occur, and these might possibly constitute legitimate exceptions from our practice, or subject it to further limitations.

Before relinquishing our observations in regard to the use of opium in bilious pleurisies, we cannot refrain from referring to the practice of the late doctor Post, of New York, as detailed in the 7th No. of the Amer. Jour. of the Med. Sciences. It appears that this physician was in the habit, long before the publications of Armstrong, of arresting the course, even of sthenic inflammations, by very large doses of opium. This practice he adopted immediately after a short course of depletion and blistering. The practice of doctor Post differs indeed materially from that here advised; but it clearly shews that the theoretical objections to the use of opium have been carried to inordinate extent. We are disposed also to think, that in order to preserve a general consistency in speculation and to secure the integrity of theoretical systems, those objections are more strongly marked in the writings than in the practice of the profession.

8. *Mercury*. We have never employed this medicine in the treatment of bilious pleurisies, except as a cathartic, aperient and alterative, in the manner above advised, while considering the use of purgatives. We presume, however, that it may occasionally become necessary in miasmatic situations, particularly where hepatic affection may be a prominent symptom. In ordinary cases, we believe that an attempt to produce ptyalism is much worse than useless, in whatever stage it may be made. In the latter periods especially, and whenever typhoid symptoms have occurred, we are persuaded that it is generally, if not uniformly, pernicious. It is a notion not uncommon among practitioners, that in those critical conditions arising in the latter stages of disease, the activity of treatment should be in proportion to the danger, and that all the supposed resources of the art should be put in requisition. The very reverse is generally true—in such states of disease *caution* is a quality still more important than *energy*, and recovery will much oftener be accomplished by a careful preservation of the powers of life, than by any activity of practice. *Ad extremos morbos extrema remedia* is a maxim which is in general applicable to the beginning of violent and rapid diseases, where there is some evident indication

to be fulfilled, or where some energetic remedy has been sanctioned by experience, rather than the critical states occurring towards the close of ordinary cases. In such situations, debility is almost one of the chief sources of danger; and that practitioner will be most successful who, in fulfilling the obvious indications, is most cautious in exhausting the vital powers. We are of opinion that mercury, when used in low typhoid states of the system, has this exhausting tendency. We, therefore, think it highly improper in the late periods of pneumonia biliosa, whether adopted in pursuance of any particular theory, or under the impression that *something must be done*. It is possible indeed that the mercurial practice might be employed with success in the early stages; but we are convinced that still higher success may be attained by plans which are in every way less exceptionable.

In the use of several other remedies which we know to have been occasionally recommended—as sanguinaria Canadensis, cantharides, &c.—we have had no experience, and therefore, omit the consideration of them.\*

We have thus given a faithful outline of a practice which we have found almost uniformly successful in bilious pleurisies. As the method of conducting the general plan, and of combining the use of its separate ingredients, may be easily inferred from what we have said while treating on each distinct class of remedies, we consider it unnecessary to recapitulate.

We think proper to remark again, that every mode of practice which we recommend, has been repeatedly tested by our professional experience. Although this has not been very extensive, yet we trust that the success attending it gives our practice some claim to consideration.

Agreeably to the plan laid down for the regulation of our editorial duties, we feel pledged to pass our opinion on the articles which may pass through our hands. In thus offering our commentaries, we do not by any means wish to assume any control over the opinions of others, nor offer our own as being better.

The trust which we have assumed, we consider a sacred obligation upon us; and by it we are bound to act without affection or favor, prejudice, interest, or hostility of feeling towards any one whatever. It will be understood of course, that our opinions, like tokens in trade, will pass for what they are worth. Whatever we may suggest, either in original composition, or remarks upon the sentiment of our correspondents, the reader is left free

\*In the above enumeration of remedies, we have, though inadvertently, omitted to notice expectorants. Whenever they may be judged necessary, small doses of vinegar of squill may be added to the diaphoretic draughts, or the decoction of seneka may be given. They are remedies on which however we place very little reliance in this form of pneumonia.

to judge for himself—We aim at a candid, just and liberal exposition of the opinions of others, while we solicit an unprejudiced examination of our own.

Our experience leads us to differ with some of the sentiments expressed in the foregoing essay. We are too sensible of the talents of our correspondent, for accurate observation, to suffer us for one moment to doubt of the accuracy of doctor Allen's observations, upon what he has seen; but, when he comes to generalize, and offer his observations, and his practice, as suited to the disease of which he treats throughout our country, we cannot reconcile his experience with our own, or that of most practitioners with whom we have an acquaintance, either personal, or by their writings.

We believe it to be a truth that there is not a greater difference of character or identity belonging to each and every case of disease, than there is of peculiarity of character in every epidemic. And hence, one of the common sources of difficulty and of discrepancy among the profession, in different cases, and different epidemics. From necessity we must name our diseases, and in most epidemics, there are so many pathognomonic signs present, as to leave no room for cavilling, or mistaking the nature of the disease; but still, when we come to the bed-side we find some peculiarities almost every year; and if our science was sufficiently perfect, we believe peculiarities would often be seen, which though so slight as to elude observation, serve nevertheless to give a peculiar cast to the disease, and consequently to its treatment. This peculiar law concealed in impenetrable shades, which too often bids defiance to all our investigations, we are persuaded, is well known to our correspondent, and hence it is, that we find him expressing the following sentiment. "The grades of action occurring in the same epidemic pleurisy are liable to considerable variation, yet every individual case should be treated with a cautious reference to the prevailing diathesis."

With these preliminary remarks, we pass on to notice some of our author's views of bloodletting. In looking at doctor Allen's remarks upon venesection in the disease before us, we are pleased with the following, believing them to be perfectly correct. "It is, however, probable that no season ever occurs, the prevailing diathesis of which is so uniformly asthenic, as wholly to preclude the use of the lancet in every case. Even in the epidemic pneumonia of 1814—15, which assumed a low grade of action by far more constantly than any other ever witnessed here, it was said by the most judicious, discriminating and successful practitioners, that bloodletting was occasionally necessary or beneficial." In thirty years practice we have never witnessed any thing to the contrary of this, though we have practised in various parts of Pennsylvania, on the Ohio, and many years in this city, during several years of which we had charge of our jail, and acted for eight years as one of the attending physicians to the Baltimore Hospital.

We, however, believe the following remarks to be correct, and important. "But where all the cases were of extremely low grade a high degree of sagacity was required to distinguish the very few examples allowing a departure from the general plan of treatment." But adds our author, "a failure in this discrimination was almost uniformly, and very quickly fatal." We can readily believe that an unskilful employment of bloodletting may do harm, but for ourselves, we have never seen any thing like an "almost uniformly and very quickly fatal" effect from bloodletting under any circumstances. In general, we have found, that it was only necessary to establish the fact that a prevailing epidemic was typhoid in its character, to put a panic or spell upon the people, and also upon most physicians in regard to bleeding; and we firmly believe that thousands have fallen victims in this country, not-

withstanding the salutary admonitions of Rush; and still more of the physicians in Europe had abandoned depletory measures, except to a very limited extent, in diseases supposed to partake in the main of low action, doctor Armstrong, was one of the first who aided in removing the scales from the eyes of European practitioners, and those of this country, who took their lessons from European books, in preference to taking them from the lectures and writings of doctor Rush.

Our experience would induce us to reverse the following rule of practice, "that in very doubtful cases it is better to refrain from the lancet." Nor can we agree to the following. "It may be here remarked, that every bilious pleurisy of a middling grade tends to the typhoid type." That there is frequently such a tendency, we have no doubt, but so far as our experience enables us to speak on this point, we must say, that we know nothing which has been more uniform than the fact, that where there has been a tendency to typhoid action, it was least common in cases where reasonable depletion especially by the lancet, had taken place; and contrariwise, where from fears of debility this had been omitted, or stimulants used, typhoid action was speedily ushered in; and thus it has happened more than once with the present writer, that while some of his brethren were attending, and reporting cases of typhoid fever, and typhoid pneumonias, he has not witnessed a case during a whole season.

The following declaration does not accord with our opinion of bleeding in cases of reduced action. "Where the excitement could be sufficiently reduced by the abstraction of three ounces of blood, we are clearly of opinion that the same object could be far more safely and beneficially effected by other evacuations, more congenial to the disease." It is not exactly three ounces that makes the question here but the repetition in such quantities. Our author goes on to offer cathartics and emetics as substitutes for the lancet. We have never been able to see how we can reduce any given amount of excitement with less expenditure of the vital energies by purgatives, than by the lancet. To say nothing of the fatigue; and sometimes danger, of suddenly emptying the alimentary tube, the exertion that is sometimes necessary, is far more exhausting than a proper bleeding—besides, we never can with any tolerable certainty foresee how much effect we may produce by cathartics; their effects are always more or less relative, so that what will operate moderately on a person at one time, may not operate at all, or it may operate excessively at another. Whereas, bloodletting can be graduated by pretty certain rules—as by bleeding in the erect, or horizontal position; from a large or small orifice, &c. and at the same time keeping a watchful eye on the face, and attending properly to the state of the pulse, we can, to say the least, regulate the amount or force of this remedy more correctly than any other. In short, we have never been made sensible of the fact, that we can ever safely deplete by purgatives, or emetics, where the loss of a few ounces of blood would do injury.

We have, however, had a special reason for noticing the opinion of our author, respecting the substitution of one article for another, in our efforts at reducing excitement. This opinion is not peculiar to doctor Allen, indeed it seems to us, that it prevails almost universally; we allude to the substitution of purgatives, emetics, antimonials, &c. for the lancet. But to our apprehension, the opinion requires qualification at least, if it be not mostly incorrect—we know it is so sometimes.

Thus it appears to be pretty well understood by the profession, that each grade or kind of debility requires some peculiar kind of stimulant or tonic,

either medicinal, or in the form of food or drink. And every one must be aware of the difficulty of suiting the various articles of the *materia medica*, or kitchen, to each individual case. It will be acknowledged, we think, that opium, camphor, bark, iron, bitter vegetables, wine, alcohol, porter and articles of diet, have each their peculiar properties, and the use of these will be prejudicial or beneficial as they shall be adjusted, with more or less skill and success, to the several cases to which they are applied.

On the other hand, we believed that if the question was seriously asked, whether the same relation did not exist between morbid states of the system, and depletory measures, every judicious physician would answer in the affirmative, and yet all must be aware of the looseness with which we speak of depletory measures—a sentiment seems to prevail, that if depletion be necessary, we have only to bleed, purge, vomit, give antimony, digitalis, &c. viewing all these agents as differing merely in the degree of force, with which they influence the system; and if there are prejudices, or objections, to one of these agents, we may use one or more of the others—now to a certain extent this is true; but it is not more true that the dyspeptic stomach must have its wonted food, than that many cases of disease have their depletory remedies. Where an emetic is clearly indicated cathartics will sometimes supercede their use, but not always; where purgatives are indicated, an emetic or nauseating doses of antimony may sometimes be substituted; and where bloodletting is indicated, we may sometimes substitute cathartics, diuretics, &c. but not always.

The truth of the matter, appears to be this—we so commonly employ the several depletory agents conjointly; that we seem often to forget, that each one has its own peculiar properties and *modus operandi*; and yet, we think nothing connected with medicine is more clear, than that there are many cases where some one or more, of these agents, will afford relief, while several others singly, or conjointly, will totally fail. In a word, we believe, that every medicinal agent has its peculiar influence, and under certain circumstances, no other one, nor the whole of the class of depletory agents, will do the office of *that one*. To talk of substituting purgatives, emetics, antimonials, &c. where bleeding is the appropriate remedy, is to talk incorrectly, and so of all agents employed in medicine.

We should never lose sight of the fact, that we not only exhibit our remedies with a view to the reduction of excitement; but also, with a view of correcting some peculiarity in the morbid derangement present, so that it will often be necessary to give an agent which shall change the morbid action, before it can reduce it. Since we are so well aware of the absorption of certain articles, as seen in the endermic practice, as well as by the influence which we see certain articles exerting over particular organs, as digitalis upon the heart, ergot upon the uterus, &c. we must admit, we think, that in many cases, we must *use the very article which suits the case*; and, that it is not sufficient at all times, to employ remedies of a certain class, but we must hit some particular article, or do nothing, or perhaps worse than nothing. There is no substitute for the lancet in very many cases of inflammatory disease, in this country. It must be admitted that a depletory plan may very often be made to answer our purposes, although we may leave out of our list, the measure best suited to the case! This we believe is often true, as regards bleeding.

But let us not be too much off our guard, in the application of our depletory agents, for we venture to offer, as one of the soundest maxims, that many diseases have their peculiar antidotes; and for these, there may be no succedaneum. You may as well talk of engrafting the oak on the pine, as to talk of arresting some cases of morbid excitement, by any means but that of abstracting blood.



That we have a correct account of the pneumonia biliosa, as it has been presented to the view of our author in the essay before us, we have no doubt—and it will readily be admitted, that what occurs at one time or place, may happen at another time, and under a similar condition of things as to the location. This should lead us to perceive the value of all well written reports of epidemics, by gentlemen whose talents for discernment qualify them pre-eminently for observation. Indeed, we firmly believe, that such communications are more valuable than any thing that can be written upon the practice of physic. What sources of information have we equal to that of Sydenham and Rush. And they are so, because they wrote what they saw and tested, not resting any thing upon so sandy a foundation as speculation. The paper before us needs no encomium. It will constitute a sound and valuable part of the grand whole, which is essential to a full and just compendium of the subject of pneumonia biliosa.

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**ART. III.—*Observations on the Endermic Application of Medicines.*** By WILLIAM W. GERHARD, M. D.

Taken from the North American Medical and Surgical Journal, for April, 1830.

**T**HE science of medicine has recently received an important auxiliary to its resources, by the discovery that remedial substances, when applied to the cutis, after the removal of the epidermis, produce their peculiar effects with nearly the same energy as if introduced into the alimentary canal. This mode of exhibition, which has received the name of the endermic method, or endermic medication, is always found much more efficacious than the Iatroleptic method of CHRESTIEN, or the administration of medicines by means of frictions upon the cuticle.

Dr. LEMBERT, without possessing the undisputed honour of the discovery, has at least greatly extended its therapeutical applications, and, although unable to procure his work, I am indirectly indebted to him through the brief notices of the Journals, for the outlines of this essay. The little attention paid to so important a subject by the practitioners of this country, induced me, after witnessing the striking benefit of a single remedy administered in this manner, to extend my inquiries to most of the active medicinal agents. A short account of the general results and modes of administration may, for the same reason, with propriety precede a detailed description of the cases and remedies, as applied to the treatment of particular diseases.

The more general introduction of this method into practice will, undoubtedly, be found, in many instances, of eminent utility in the management of disease. Every practitioner of the least experience must be perfectly aware, that inflammation of the stomach or intestines, is either the cause or accompaniment

of many of the most embarrassing diseases with which we have to contend; and that the remedies on which we are accustomed to rely cannot in many cases be employed, owing to the alarming irritation following their use, so that an otherwise salutary revulsion may be converted into an irritation, sometimes more dangerous than the original disease. Intermittents are frequently complicated with gastric phlogosis, or, in accordance with the doctrine of a celebrated school, derive their origin from periodical irritations of the *primæ viæ*. Under such circumstances, the cinchona, though entirely efficient in preventing the return of these irritations when perfect intermission from febrile symptoms can be procured, becomes a stimulant, acting directly upon the mucous membranes, and thus transforming a simple intermittent into a continued fever. Dropsical effusions frequently arise from chronic inflammation of the intestines, and ascites is sometimes caused by the direct transmission of diseased action from the mucous to the peritoneal coat. In these cases, drastic purgatives, or even the ordinary diuretics, produce so intense an excitement as entirely to preclude their exhibition; and the patient must be abandoned to his fate, without the alleviation to his sufferings that medicine might afford.

When we contemplate the astonishing phenomena connected with the endermic method of producing small-pox, and thus ameliorate the disease, so as to divest it of nearly all its horrors and its dangers; when we see the still more extraordinary circumstances connected with the inscrutable revulsion which we effect upon the human body, by the insertion of a mere particle of the vaccine virus. When we again see the wonderful morbid derangements which are produced by the application of syphilitic poison to the skin of the genitals, and watch its absorption and successive encroachments upon certain parts of the human body.—Or, lastly, when we glance at the deadly influence which certain poisons, as the woorara, venom of the viper, &c., exert over our bodies, when inserted in minute portions—or, the peculiar influence frequently seen attending cantharides applied externally, we can find no room to doubt the extensive influence of judicious endermic medication.

It is a pleasing fact attending this practice, that many articles which admit of application in this way, produce by their external application, effects similar to those produced by their internal exhibition—this we have seen in cantharides—cinchona—aloes, &c. Still, we are met here by the mortifying fact, that we can only ascertain the effects which may be expected from untried articles, by actual trial of them. Thus we are told, that “croton oil and elaterium” produced but little effect, while “aloes purged violently.” In short, facts have been collected already to convince us that, in the investigation of our materia medica as it stands, related to the endermic practice, we must test the articles as we proceed, never presuming with any confidence to say, what will be the effect of any one article. From this view of the subject it is evident, that at present our knowledge of the endermic practice is very imperfect, and will require much patient and skilful attention, to render it a regular branch of medical practice.

Doctor Gerhard has clearly shown, that this may become, under certain circumstances, an invaluable mode of medication. We, therefore, recommend the paper to the attention of the profession. The issues of life and death are often in the hands of the profession, and they are, therefore, in duty bound to obtain knowledge by every possible mode. We think this view of the subject, considering the novelty of the practice related by doctor Gerhard, will render his observations and experiments, interesting to our readers. Although the endermic practice has excited attention on the continent of Europe for some time, so far as we recollect, the paper before us, is the first attempt at its introduction into the United States.

It is, however, a lamentable truth, that innovation is too much the order of the day—change—innovation—novelty—things new—wondrous—unheard of—unthought of—the latter the better of all change, from the known to the unknown! Such being the case, we hold it to be one of our first duties, as commentators of the doctrines and practice of the day, to warn against a too ready desertion of regular and well settled practice for innovations, however well recommended. Medical science is still so much beset by accident, that apart from the liability which there is for men to make things suit favorite theories, or to obtain credit for some grand invention, the risk of actual mistake, accident, &c. is such as to present serious obstacles in the way of judicious men, in giving up well established rules or modes of practice, till they are sure of having a better at hand. Let us then never think of employing the endermic medication, but in case of necessity.

We are told in the foregoing paragraph, that "every practitioner of the least experience, must be perfectly aware, that inflammation of the stomach or intestines, is either the cause or accompaniment of many of the most embarrassing diseases with which we have to contend." It must be admitted, that this is a very indefinite way of speaking. A cause is a very different thing from an accompaniment, or mere symptom of a disease. We believe with the author before us, that the stomach and intestines are much concerned in most diseases—this is a fact requiring no pathological illustration—it should have been, and, to many, was known, by the phenomena of fever as manifested during life. The alimentary tube being the inlet, and in good degree the outlet, for all the external agents, which must pass through as the supporters of life, it could never be doubted, that this part of our bodies must, in a high degree, partake of general diseases. So important have we long considered a proper share of attention to the stomach and intestines, as well in health as in disease, that we have always kept before us, as an important fact, the remark of M. Richerand, that man in the extreme abstraction, may be considered a tube opened at either end. But to convert by speculation a symptom, however important, into a cause, is, to our apprehension, superlatively dangerous, and no less irrational.

We would ask, can inflammation take place without a cause? Is inflammation not a disease itself? Suppose we have a patient laboring under high fever, who, three hours before, was as he believed in fine health; now his flesh burns, his skin is hot, his mouth parched and clammy; pulse excited; violent pain of head and back. Are we under such circumstances to conclude, that inflammation had existed, notwithstanding the appetite was yesterday, as good as ever; nor has there been any evidence of much gastric derangement to day—such cases we have seen frequently. Shall we say this patient's head aches, his back aches, his skin burns, his limbs ache, &c. because there is a phlogosed state of the stomach? For ourselves, we would hold such a belief to be an absurdity. But let us, for argument sake, admit the supposition of this irritation, or inflammation. We would then ask, what causes the

irritation, &c.? It may be answered, it is the malaria of marshes, &c. Then the miasm is the cause of the inflammation, and the inflammation is the cause of the fever. That is, we have a cause to produce a cause; and that cause gives rise to the phenomena seen in fever. The whole body is more or less involved often, more particularly the liver, the brain, the lungs, peritoneum, &c. Several organs are in a phlogosed state, the stomach and intestines are so too, *but all the former are only parts, or fractions of one disease*, called fever; but, the stomach, also, but a fractional part, is the veritable cause of the whole disturbance, although it is merely in the phlogosed state, which exists in other of the vital organs. We think, this is a fair exposition of the subject of gastro-enteritis, as the alleged cause of fever; and it is to us, too illogical, and based upon too feeble a foundation, to satisfy our craving after knowledge, on this truly interesting concern to all mankind.

We have already put the question, is inflammation a disease of itself? If we inflame the stomach by arsenic, caustic, acids, &c. we produce intense pain, and a peculiar pulse; small, frequent and corded; and, consequently, quite different from the prevailing state of pulse in most fevers. When we add this fact, to the entirely dissimilar phenomena, which we see attendant upon irritants applied to the stomach, and associated with fever; we cannot see how any one can insist upon fever being the result of this phlogosed state of the stomach. But if inflammation be a disease, then it must stand as the effect of some antecedent—a more curious mystery could not readily present itself to our mind than the helief, that one disease should be the cause of another disease, while both are obviously shaped in their symptoms, by a well known remote cause, as is the case in fever from miasmatic poisons. We say then, gastric derangement is not the cause, but an “accompaniment” of most severe cases of fever!

We are told, that “intermittents are frequently complicated with gastric phlogosis, or, in accordance with the doctrines of a celebrated school, derive their origin from periodical irritations of the primæ viæ.” Such views of disease are far more specious than solid—they may be made without fear of being disproved, since the experiment is not to be made by vivisection—but is it wise to conclude, that because a disease becomes violent, and terminates fatally, and leaves marks of phlogosis in the stomach, &c. that this state of things existed at an early period of the disease?

If we were to admit the views presented by doctor Gerhard, as the doctrines of a “celebrated school,” that there are periodical irritations, or phlogosis, corresponding with the hot stage of an intermittent; it would seem to us extremely curious, that, in hundreds of cases of intermittents, notwithstanding these *periodic irritations*, we give the bark, with so much success; yet, in other cases, where these same irritations, or, perhaps, in greater force, are present, we greatly augment the disease; and may thus destroy the patient. Now we see no difficulty in believing, that there may be a state of excitement, or call it irritation, if you please, of the stomach, which forbids the use of the bark or any other stimulant; but, has this not been familiarly known very long since. But, if these irritations are the cause of intermittents, how comes it that the bark will so uniformly cure the disease, by premising it with a purge, an emetic, or a bleeding, &c.; and indeed, often without any preparation whatever. Or, how is it, that we so often see cases of agues protracted for weeks and months, notwithstanding the free use of bark or some other agent; and, by varying the tonic—as by the combination of bark, cloves and crem. tartar; arsenic, alum and nutmeg, spider’s web, prussiat. of iron, spirits of turpentine, &c. we shall afford immediate relief. Besides, it is well known, that frights, the sight of things of a disgusting nature, and things without virtues, except so far as they are

made to operate on the imagination, will sometimes cure the most obstinate agues.

What are we to think of that stomach which alternately, is in a state of philogosis to day, and to morrow receives its accustomed supplies of animal food, &c. and digests pretty well, thus enabling the patient, often times to do full labor, on his well days, for a period extended to months.

We are here reminded of a singular case of intermittent fever, which came under our notice many years since, on the Ohio, at Wheeling; a post rider, we think, his name was Benjamin Mullican, had been the subject of intermittent for several months; some times he was prevented from performing his labor; at others, he did his hard duty, notwithstanding these "*periodic gastro-enteric*" irritations—some times these irritations, being tired of plaguing the patient, would cease their revellings, and his stomach took its wonted supplies, and digested off both the food and the irritations, for a few days, or perhaps, a week or two. After much suffering, and a great deal of physic taking; and after very long annoyance from the *periodic gastro-enteric irritations*, the patient took it into his head to go on a fishing excursion, a distance of a mile or two, down the river—a thunder storm approached; the patient anxious to avoid the storm worked hard, at rowing the boat, until he was completely drenched with sweat—arrived at this stage of preparation for a shower bath, and it being near his time of chill and *periodic gastro-enteritis*, his body became a second time drenched in a most abundant rain. To all appearances there was not a dry thread upon him. The present writer had fears for the consequences of such an exposure, under such circumstances; but had the gratification of ascertaining afterwards, that these unrelenting *periodic gastro-enteric* agents were drowned, and never again resuscitated!

We should however be sorry to be misunderstood on this point; we well know that cases of intermittents occasionally occur at all seasons, more commonly in some epidemics than in others, and especially apt to take place on the approach of cold weather, in which there is an inflammatory diathesis; and an irritability of the sanguiferous system, which disposes to undue excitement, or gives to it a slightly philogosed state. And that under such circumstances, we must have recourse to bleeding and other evacuations; but as far as our observation goes, and we speak from an experience of thirty years, we have never seen a case requiring bleeding, that did not require more or less purging.

We are told in the paper before us, where there is a philogosed state of the stomach, that the bark becomes a stimulant, acting directly upon the mucous membranes, which are supposed to be in this state of excitement. That dropsical effusions arise from chronic inflammation of the intestines, and from the inflammation being transferred from the internal to the external coats that drastic purgatives, and even common diuretics, produce so intense an excitement, as entirely to preclude their exhibition. Then it is said, that the "endermic method of exhibiting these medicines is often admissible, when no other mode of administration is practicable; and their success may be anticipated with as much confidence, as if prescribed in the usual manner." From all this, we think, it fairly and clearly inferrible, that the writer before us, means to say, that bark and gastric purgatives may be given, in the state of the body in which they would not be admissible, internally administered.

Let us first turn our attention to the article aloes, applied by the skin—it will purge freely we are told—what is its *modus operandi*? We presume it will be by exciting the exhalents, and the muscular coats of the intestines, through the medium of their nerves, as though the agent had been applied directly; and we have reason to believe, that in both cases, the ef-

fect will be in proportion to the irritation which the aloes produces. And thus it is, that in most cases, where there is a prevailing tendency for mercury exhibited by the mouth to purge, there will be more or less tendency to the same, when the remedy is applied externally—we well know that the former mode of practice will most certainly purge. But this argues nothing in favor of the external use of aloes; we want only the purging effect from it, and if the irritation which must necessarily attend its employment is an objection to its use, the objection will exist in both cases—but with the mercury, we wish another influence, to wit: an affection of the absorbent system.

If it is meant that bark or its preparations, can be given by the endermic method, notwithstanding the supposed phlogosed state of the stomach; or in other cases attended with too much excitement, to admit of the internal use of this tonic, we would say, that this fact must be decided by future observation and experiment. But there is so much reason for doubting on this point, to say the least, that no judicious physician will venture to test it, except it be from necessity. Thus it has been found by the experiments of Mr. Brodie, that the external application of arsenic exerts its deadly influence upon the stomach, the same as though it had been applied directly; and Paris tells us, that Barytes acts in a similar manner upon the body, whether it be applied externally or internally—this being the case, what reason can we have for supposing, that bark will not operate in a similar manner? And if it is so, it will follow, that if we admit the French pathology, and give the bark, we do not thereby obviate the objection which is supposed to lie against its internal use. Judging by analogy, we are induced to believe, that whether we apply the remedy externally or internally, while the stomach is in a phlogosed state, or there be a general excitement, we shall augment the evil, by unduly stimulating the internal surface of the stomach.

But we have still more marked objections, because we do not believe in this supposed state of extraordinary gastric excitement in ordinary cases, or, indeed, in any other, but cases much neglected, or mal-treated, by over-stimulation in the use of medicine, food, or drinks. On the contrary, we believe, there is a predominant phlogosed condition, or what has very long since been known, by medical men, by the term inflammatory diathesis. If this view of the subject be correct, it will follow, that tonics cannot be attempted with propriety, till this condition is removed by depletion.

Although we well know that there are exceptions, yet we are well convinced, from long observation, that those are the most successful practitioners in intermittents, who deplete most freely, provided it is done with skill. We are fully persuaded, that one of the greatest errors in practice, is that of treating agues upon too stimulant a plan. And hence, it is, that we have so many relapses. Treat an ague in the incipient state of it, agreeably to the general principles laid down by Rush, and we will seldom fail to cure the disease, in a paroxysm or two; and shall have much fewer relapses. That is, meet the chill with external warmth, and the free use of mild warm tea, or hot lemonade, and so soon as re-action is well established, bleed according to circumstances; and, on the same day, give a full dose of calomel, 15 to 20 grs.; and if necessary, carry it off with oil, salts, senna, &c. After this, be sure that you have a perfect intermission; if so, give the bark or quinine, so as to give an ounce of the former, or an equivalent of the latter, a little more or less, according to circumstances, before the expected return of the chill. If the system is prepared for it, this will seldom if ever fail to prevent the recurrence of the chill. We have seen, a good deal of intermittent fever, and we positively aver, that we have not met half a dozen cases in our practice, in which the bark fail-

ed to check the disease, before a third chill had come on subsequent to the use of the bark.

This form of fever, however, sometimes prevails epidemically, with so little of the inflammatory character about it, that in a great majority of cases, we have only to cleanse the primæ viæ, to enable the bark to stop the disease. But even in such epidemics, we have now and then seen cases, which would either not yield to the bark, or if checked by it, the disease was sure to return in a few days again, till the inflammatory diathesis, existing in the sanguiferous system, was relieved by venesection, purgatives, antimonials, &c.

The sum of our opinion then as respects the endermic use of the bark, is that we should not employ it by this method, while we believe there is any well marked phlogosis of the stomach; or general inflammatory diathesis. Nevertheless, we believe, we may meet cases where the stomach refuses to retain the bark, either because its secretions, or those of the liver, keep it in an irritable state; or where mere atony of its vessels, nerves, &c. exists, by which this viscus rejects every thing put into it; and yet, nothing like a state of vascular or nervous excitement, or phlogosis, exists. It is in such cases, and such only, that we should venture on the endermic method of using the bark, in any of its forms.

These are our present impressions, we will, however, anxiously await further observation and experiment; and shall most willingly acknowledge our error, should conviction ever settle upon our mind. The science of medicine is still so imperfect, both in its principles and practice, as to require further research, observation, and experiment; but let us not, in looking for new ways, turn out of our more established high-ways, and by-ways, till driven by necessity.

The endermic method of exhibiting these medicines is often admissible when no other mode of administration is practicable; and their success may be anticipated with as much confidence as if prescribed in the usual manner. Equal benefit has resulted from the employment of narcotics, in cases in which opium could not be supported in any of its ordinary forms, and when the sulphate of morphia no longer acted as an anodyne. Purgatives and emetics, though less frequently necessary, may often be applied with advantage to the external surface; other remedies may also be found sometimes equally applicable.

All medicines are not alike applicable for endermic medication: substances of little activity, which must be administered in large doses to produce a slight action, or such as contain a large portion of inert matter, are inadmissible. Powerful chemical irritants which cauterize or violently inflame the cutis, we have found equally improper. The more active vegetables, or their extracts, and some of the tinctures, may be used with great propriety; but no remedies are so well adapted to this purpose as the vegetable alkalies, which form the active principles in so many of our heroic remedies. The small quantity requisite to produce their full effect, enables us to apply them to a very small denuded surface.

Those medicines which are dry, I have sprinkled upon the part in the form of powder; but if moist, and not easily pulverized, they should be reduced to the consistence of an extract, and gently spread upon the surface, or on a piece of linen, which may be laid upon it. Fluids I have used as a lotion, or by the application of compresses which had been previously soaked in them. Oily substances, and sometimes powders, may be incorporated with cerate, and substituted for the usual dressing. A more powerful effect I have, however, always found produced by the direct application of the substance, unless much irritation should ensue, when dilution with an inert material becomes indispensable.

Of the many methods of detaching the cuticle, I know of none more convenient and less painful than by the action of cantharides. Blisters, therefore, should always be used, and their action hastened and rendered less irritating by the application of soft poultices. The size of the blister must vary according to the substance to be applied. A very small one is sufficient when the dose of the medicine is not large, and it is not desirable to continue its action for a very long period. Where the blister was applied solely for the purposes of endermic medication, I have usually found a surface of about four inches square the more convenient. It is unnecessary to detach the cuticle entirely at the first dressing; a small portion may be carefully raised and the medicine inserted beneath; or it may be placed upon the epidermis after the discharge of the serum. At the second dressing, the cutis becomes less irritable, and supports the immediate action of the remedy with less pain to the patient. When a continuance of the medicine is necessary, the remains of the former dressing must be removed by gently pouring some warm water, or soap and water, upon the surface. I have not found the chloride of lime or other irritants to be in any case necessary. The remains of the substance applied are much less than the original quantity, and sometimes no trace of it can be perceived, the whole appearing to be absorbed or mingled with the secretions. The usual dressing should be laid over the part, or the cerate, moderated by the addition of a portion of the medicine, may be used as an adjuvant to the more efficient preparation.

The dose of medicinal substances is of course rather greater when applied by endermic medication than when exhibited in the usual manner. Many medicines, however, under favorable circumstances, whether administered internally or externally, appear to produce equal effects in like doses, though this result is



not always to be expected. Double or treble the usual dose should generally be exhibited, though a much larger quantity may be borne without inconvenience.

Immediately after the application of an active agent to the cutis, considerable pain, of longer or shorter duration, is felt in the part. At this time, the action of the medicine is generally of an ordinary incitant. This local irritation is perfectly distinct, and unconnected with the specific effects of the medicine, which it tends to counteract instead of aiding: on this account I have rarely found the most irritating drastic remedies successful, when applied externally. Croton oil and elaterium failed, while aloes though ordinarily less active, purged violently; tartar emetic, and other mineral substances, afforded very unsatisfactory results. Soon after the application of the medicine, the patient frequently experiences a sensation of warmth, proceeding from the part towards the interior of the body, and prior to, or accompanying the usual operation of the remedy. Whether this arises from mere irritation, or from absorption, is difficult to determine; it does not, however, occur at all times, nor with all applications. The energy with which medicines act upon the cutaneous tissue is greatly influenced by the part of the body to which they are applied. When the cutis is thick and at a considerable distance from the vital organs, little effect results; the part most abundantly supplied with nerves and blood vessels, and the interior parts of the body in general, are peculiarly adapted to these impressions; but I have found the epigastrium to be by far the most appropriate place, and the observations here made are, in most cases, based upon the results that have been obtained in this manner. The interior parts of the neck and thorax answer nearly as well; and the internal portions of the thighs and arms we have often resorted to with manifest advantage. The back, or the extreme parts of the limbs, are by no means so suitable, and do not often possess sufficient powers of absorption for endermic applications. Any part of the body, which may be contiguous to the seat of a local disease, or to the organ on which the medicine is destined to act, should, however, be preferred to the more remote, although the more convenient situations.

It will be readily understood from the description already given, that the endermic application of medicines must be inappropriate, if the patient should be of so irritable temperament as to be unable to support the pain which necessarily attends the use of the medicine, and the previous action of the blister. Excessive corpulency, pregnancy, or great debility of the whole

system, appear to diminish the powers of external absorption in the individual. The following cases and observations include the most important classes of medicinal substances and their endermic operation, particularly as applied to the treatment of diseases: the results obtained, whether successful or the contrary, will be found under their appropriate sections.

The series was commenced in the month of July last, and embraces the deductions from nearly two hundred cases. A sufficient number of observations has, therefore, confirmed the accuracy of the results, and may justify a trial by those better fitted to judge of their utility in practice. The situation which I lately held of resident physician at the Alms-house Infirmary, has furnished me with very frequent opportunities of applying the remedies, indicated for the disease, to an external surface; and the friendly assistance of my colleagues, especially of doctors CARTER, CENAS, DUANE and MORTON, has greatly extended the list. Although the endermic application of many medicines was by no means a novel practice with doctor JACKSON, yet the favorable effect manifested in some of these cases led him to a more frequent recourse to it, and several of the most interesting and appropriate instances were selected from those under his immediate superintendence.

*Tonics.*—Endermic application of cinchona. My observations have been confined to the preparations of cinchona, as affording the best examples of the most concentrated and powerful tonics. The sulphate of quinia has been very frequently administered as an endermic remedy. When applied to the inflamed cutis, it powerfully stimulates the surface, causing pain which may continue for a few minutes, or for a much longer period, according to the susceptibility of the individual. The pulse of the patient is excited, and if examined a few hours after the application, it will be found more full and frequent, but rarely rising of a febrile character. The permanent tonic effects do not differ from those usually observed; the appetite increases, the health of the patient becomes more vigorous; and in fine, the dry red tongue rarely follows intermittents, if treated by quinia externally administered.

In the Alms-house, it has for a long time been the established practice, to dress the blisters of patients exhausted from severe disease with the sulphate of quinia, and the permanence of the practice sufficiently attests its apparent efficiency. The quantity in which it should be applied as a mere stimulant is large; from four to twelve grains. As a febrifuge the use of quinia is of very recent date, except by the internal mode of exhibition.—

The more ancient preparations of bark, as well as the powder, were sometimes placed in contact with the cuticle; but the entire inertness of the practice only subjected it to ridicule. The importance of the subject, and the little attention which has generally been paid to it, induced me to investigate it with particular care, and the results were in every respect most satisfactory, proving that the cure was as perfect and as speedy, and sometimes more easily effected than by the ordinary method.

Upwards of twenty cases of intermittent fever were treated by the sulphate of quinia applied externally, and with the most perfect success, except in three or four cases, where, from accidental causes, its use was discontinued before the period of the paroxysm. Of this number nine were tertian, the remainder quotidian, including all the cases of which a connected history could be obtained. In twelve instances, there was no return of the chill after the first applications; the others were rarely attended by more than one paroxysm, and never by a third, excepting in a single instance, where severe attacks supervened before the entire removal of the disease. In every case, however, each succeeding paroxysm was marked by a great diminution of its intensity and duration. The average quantity of quinia applied before the chills were arrested, was about twenty grains; although it varied in the different patients from eight to one hundred and twelve. Some absorption appeared certainly to have taken place, for only a small residue of the quinia remained at the subsequent dressings, and sometimes no trace of it could be perceived. The blister was always applied during the apyrexia, and if the paroxysm appeared before the first application could be made, it was postponed until its termination. Whenever either the blister or the quinia was in actual operation during the fever, it always seemed to produce increased excitement, although in some notices of similar cases treated by an Italian physician, it is stated that this effect did not take place. The quinia was generally used in powder, either alone or diluted with some mild substance, and sprinkled upon the surface; sometimes it was incorporated with cerate, by which less pain was produced. The disease was arrested more quickly in the majority of males than in females. Was this a mere coincidence, or did it depend upon greater powers of absorption? It was remarked by most of the gentlemen who adopted this practice, that the quinia cured more speedily in this form than when given internally, and that the permanence of the cure was as least as great; for in either case it is necessary to continue the treatment for some days after the cessation of the

paroxysm, in order to secure the patient against its recurrence. I have generally found it most convenient to omit the external use of the quinia two or three days after that period, and commence the internal exhibition of two or three grains, daily, as a prophylactic. The ordinary treatment applied at the Alms-house, such as bleeding in the hot stage, with a mild cathartic, was not neglected. The following cases are selected from many others, in order to show the varieties of the disease, and the necessary modifications of treatment.

*Case 1.* Thomas Duffy, aged thirty-seven, a labourer of intemperate habits, admitted July 9, 1829. Last April the patient was attacked with intermittent, and cured; but relapsed six weeks ago. Since that period the disease has continued with daily paroxysms. The tongue is furred, bowels constipated. Ordered a purgative in the afternoon; a violent fever followed the chill: ordered venesection and cold applications to the head. 10th. Apyrexia: a blister four inches square was directed to be applied to the epigastrium. Two hours after the application, a chill came on, followed by fever. Evening; apyrexia: three grains of the sulphate of quinia were then sprinkled upon the blister, mixed with starch. 11th. Is free from fever: two applications made this morning; dose the same as last evening. Tongue improving, bowels open; pulse very little excited; quinia discontinued until evening. No chill. 12th. Skin moist, but warm; pulse 100. His diet, which had been moderate, was now still more restricted. One application of the quinia made, when it was finally discontinued. 14th. Entirely recovered; blister nearly healed. One grain of quinia to be taken internally twice a day for two or three days. Discharged, well. This case is an example of the ordinary intermittent. Nine grains prevented a return. The other cases of this kind presented a similar character. The quantity was rather less than I usually applied, the ordinary dose being four grains, four times a day.

*Case 2.* Ruth McKaig, aged twenty five, of intemperate habits; admitted September 13th. She has had intermittent since the 6th; at first a quotidian, but for the last three days a tertian: the chill occurring about day-light in the morning. Was admitted during the hot stage: high fever. Ordered venesection  $\frac{3}{4}$  xvi; cold sponging of the surface; ice to the head; absolute diet. Some fever continued during the interval. 15th. Another chill this morning: the cold stage lasted upwards of an hour, and the fever terminated about the middle of the afternoon, when an ounce of magnes. sulph. was given: at eleven P. M.

pulse 112, bowels open, tongue slightly furred, skin soft. Ordered a blister five inches square to the epigastrium. 16th. Nine A. M. Pulse 102, rather feeble; four grains of the sulphate of quinia were sprinkled upon the blistered surface, without entirely removing the epidermis; two hours afterwards the pulse had risen to 112, with much more force: at four P. M. pulse 104, less excited; four grains applied, raising portions of the epidermis. At eight A. M. pulse 112; four grains again applied, and cerate mixed with quinia used as a dressing. 17th. The remainder of the cerate was applied this morning, the whole having contained twelve grains; a chill however supervened, though later than usual, and with less severity; headach and fever followed. Ordered venesection  $\bar{3}$  xiv; soda powders and cold applications: no quinia exhibited after the chill. 18th. Pulse 102, skin rather cool: three grains of quinia applied three times a day. 19th. A slight sensation of coolness instead of the chill; very little fever: four grains applied four times. 20th. Apyrexia; applications as yesterday. 21st and 22d. Two applications each day; dose as before: patient entirely recovered; no chill after the 19th. Too much irritation existed in this case at the time of the first application; had another period been allowed to elapse, a more perfect intermission might have been procured.

Case 3. Mary Lonton, aged 20. Temperate habits. Admitted November 11th. Nine days since she was attacked with fever, which soon received an intermittent type. Has a chill daily at eleven o'clock, A. M. November 11th. Full, tense pulse. headach, &c. Ordered venesection  $\bar{3}$  xvi. seidlitz powders. 12th. Some fever during the interval; acet. ammon. Chill at eleven o'clock, venesection  $\bar{3}$  xiv. during the fever. Afternoon: no headach, cool skin, sulph. quinia one grain every three hours during the night, and every two hours next morning. 13th. Chill at the usual time; paroxysm less violent, apyrexia tolerably perfect; no headach, cool skin, pulse 86. Quinia, one grain every hour. 14th. Chill again, but of rather shorter duration; seidlitz powders. Complains of tightness of the epigastrium. Ordered cups; and the quinia every two hours. 15th. Tightness at the epigastrium returned. Missed her chill for the first time. In the afternoon she was found in convulsions, to which she is subject, and which are always preceded by a sensation of tightness: pulse firm; venesection  $\bar{3}$  xvi. sinapisms: enemata of senna tea. 10th. Pulse 104; feels better, no uneasiness at the epigastrium, cool skin: sinapism; dry cups to the back of the neck. Chill at the usual time, at eleven, P. M. pulse 86.

Quinia every two hours during night. 17th. Chill returned with headach, pulse 94, dry skin; stop quinia. At half past ten o'clock, A. M. Dr. JACKSON saw the patient, and directed a blister to the epigastrium, and quinia to be used as an endermic application: six grains were applied at eight P. M.; six grains during the night, and the same quantity next morning. 18th. Pulse active; headach, but diminished in the evening: quinia continued; no chill. 19th. Slept well, scarcely any pain in the head; pulse 104, cool skin; moist, but slightly furred tongue. No chill at the usual time, but returned at seven, P. M., with some headach; no tightness at the epigastrium; quinia dressings continued in the former quantity. 20th. Restless night; less headach; but complains of pain from the application: bowels costive; quinia reduced to two grains three times a day, and mass. hydrarg: gr. v. rhei. pulv. gr. xv. m. to be given in pills: no chill. 21st. Very slight chill at seven P. M.; continue applications. 22d. Slept well; no headach; cool skin; moist tongue; pulse 80; bowels open; she has no chills; pulse natural; a little tightness at the epigastrium: no change in treatment. 24th. Tightness at the epigastrium; pulse 80; skin cool; blister nearly dry; quinia now suspended. At noon a convulsion came on: the usual remedies were employed, and the disease was perfectly removed in the evening. No medicines were administered after this period, as the patient was entirely convalescent, and recovered without another unpleasant symptom. This case is very interesting, as it illustrates the great practical advantage to be derived from the endermic treatment of intermittents. Although the quinia had been given with the greatest caution, all the symptoms were materially aggravated; but the same remedy applied externally, even in an irritable subject, immediately converted the quotidian into a mild tertian, and in a short time effected an entire cure. Another patient in the ward at the same time, was treated with the most perfect success in the manner just described, after a fruitless internal administration of the ordinary medicine.

*Case 4.* Samuel Henry, aged twenty-two; admitted September 25th, with quotidian intermittent of long standing. Early in the morning he had a severe chill. A blister was applied, after the fever, and directed to be dressed with four grains of quinia four times a day. 26th. At eight, A. M. a severe chill with slight fever. Continue the dressings as yesterday. 27th. Chill at ten, A. M.; severe paroxysm; treatment continued. 28th. No chill; applications as formerly. 29th. Chill at twelve; no change. 30th. A slight chill at noon; treatment the same.

October 1st. A slight chill at two, P. M. 2d. A sensation of coldness, but scarcely a chill at the same hour as yesterday. 3d. No chill; quinia continued to day as usual; the dose has been the same since the commencement of the treatment. The patient continuing perfectly well, no farther applications were made.

This case was the most obstinate I have met with, but proves very satisfactorily the power of the medicine in retarding and mitigating the paroxysms. The quinia succeeded perfectly in some cases in which it was applied to the breast, in consequence of a blister originally placed to remove some pectoral affection. In two cases it was applied to the inside of the arm; but although it arrested the chills, a disposition to fever seemed to arise, and continued for some days, without indeed serious inconvenience to the patient. My experience, however, on this point, has not been sufficient to enable me to form any general deductions. Doctor JACKSON informs me that he has applied the quinia to the inside of the thighs, with great advantage, in a case of intermittent.

The extract of cinchona, prepared by the Messrs. Wetherills of this city, as it possesses the active properties of the bark in a very concentrated form, and may be readily reduced to the semifluid state, is well adapted for endermic application.

*Case 5.* Elizabeth M'Donald, aged thirty; admitted October 2d, with quotidian intermittent; a blister was applied to the epigastrium after the termination of the paroxysm. 3d. A severe chill this morning; after the fever, ten grains of the softened extract were spread upon the cutis, under portions of the cuticle which were carefully raised. 4th. A slight chill. Two applications of ten grains each were made during the day. 5th. No chill; one application in the morning. 6th. No chill; one application made. 7th. Treatment continued, but no further dressings were used. 9th and 10th. Patient perfectly well; but two grains of the extract were given internally twice a day, to ensure her entire security. Discharged October 10th. The other preparations of bark, although less energetic, would undoubtedly succeed, unless the dose should be too large. I cannot, however, speak from my own experience; my observations having been confined to those already mentioned.

**ART. IV. *Diarian observations upon the weather, the seasons, and the diseases of certain seasons.*** By HORATIO G. JAMESON, M. D.

**WE** believe it is now pretty generally admitted, that our meteorological observations do not, in any very material degree, aid us in our inquiries into the phenomena of diseases. The opinion expressed long since, by doctor Sydenham, that no clear inferences can be drawn from the sensible signs of the weather, and that remote causes are frequently occult, has become more established, as time and opportunity have served to instruct us, in this branch of philosophy. But, while we admit the truth of this opinion, as applied to any particular location, still it is certain, that as each location has its modifying influences upon some diseases, so, also, must we admit, that in variable climates, each season will have its modifying influences.

We therefore, believe, that however unimportant meteorological observations, made in any one place, may be to other places, that, nevertheless, every physician will find it useful to keep a diary of the weather, associated with his diary of the diseases of his neighborhood—nay, more, we venture to assert, that these taken together, will afford one of the best sources of instruction. We are well convinced, that we profited by such a practice; and, we have been led to believe, that some of our observations of former years, will serve to shed a little light upon the epidemic influences of the middle States, at least.

Our observations, which we more particularly allude to, at this time, were made in the years 1806, '7, '8, and '9. Believing, as we have already said, that meteorological observations are only particularly instructive in situations where made, we shall not trouble our readers with tables of the weather in general; but, with a view of keeping up the connection of our *observations*, we shall exhibit a specimen of our method, by giving the particulars of one quarter year, and the total of items for two successive years. We regret that we were not in possession of the usual instruments; but still, we think, the exposition of the more sensible signs of the weather which we have given, may be made useful to practising physicians, in each neighborhood; and, they are comparatively easily made.



*Meteorological Table for the last quarter, of the year 1806, made at Gettysburg, Adams County, Pennsylvania.*

	No. of days	Clear	Cloudy	Rain	Warm	Mild	Cool	Cold	Windy	Thunder & lightning	White frost	Snow. Inches	Hail	Fog
1806.														
October	31	23	8	5	5	18	8	"	1	"	8	"	"	"
November	30	20	10	3	3	18	6	11	5	"	8	$\frac{1}{2}$	5	1
December	31	17	14	2	2	8	10	16	5	"	"	24	"	3
	92	60	32	19	10	46	24	16	11	"	16	24 $\frac{1}{2}$	5	4

*Remarks on the above Table.*—It will be observed, that there are several things remarkable, for this season of the year—60 days are marked as being clear—10 warm, that is, warm for the season. It is also remarkable, that there were 46 days that were mild, for the season—and, we had 19 rains. And hence it was, no doubt, that remittent fevers continued to prevail, as we shall hereafter show, till the end of October, although no less than eight white frosts are marked for this month; the first, however, occurred on the 15th. By way of showing that the season was a remarkable one, we shall collate the items just noticed, with those of the succeeding year. Thus, in 1806, we marked 60 clear days, in the last quarter; in 1807, the number is 43; in the former year, we had 10 days warm; in the latter, but 3—46 days are marked as mild, in 1806; in the next year, we had 51: and, lastly, in the former year, we had 19 rains; in the latter, but 11: 1806 was then warmer, and wetter, considerably, than its successor.

With these remarks, we shall pass on from our table for the present, but will probably have occasion, as we progress in our observations, to notice it again, in association with the diseases prevailing in each of the months noticed.

Before commencing our observations upon the diseases of 1806, and the three succeeding years, we shall exhibit the total of items in our annual tables, for the years 1806, and '7.

	No. of days	Clear	Cloudy	Rain	Warm	Mild	Cool	Cold	Windy	Thunder and lightning	White frost	Snow. inches.	Hail	Fog
1806	365	203	162	79	50	170	89	55	55	10	20	85	5	5
1807	"	182	183	70	69	163	98	36	57	26	65	65	1	6

*Remarks.*—It may be remarked, that while 1806 is obviously the warmer of the two years under notice, still there is a considerable number more of warm days in 1807, the difference being as 50, to 69. The former year had much more clear weather than the latter—the most remarkable differences are seen, however, in the items of thunder, and white frost—in the former, 10 to 26—in the latter, 20, to 65. Of course, 1807 was the cooler year; and, if any credit is to be given to the popular belief, that thunder serves to purify the air, and that frequent white frosts also tend to correct malaria, we must consider that year more healthy than 1806; and this, in fact, was the state of things then existing, whether accidental or not. That the whole assemblage of phenomena, attending the changes of weather, tended to modify diseases, and also to increase or diminish the amount of it, is too clearly manifest to admit of doubt. With these preliminaries, we shall now proceed to notice the character of disease, of the summer of 1806. It is at that period that our diary commences.

Turning to our notes, we perceive, that the first cases of disease on our books, are cases of bilious fever and cholera morbus, *towards the latter end of May*. This fact, so unusual in the interior of the middle States, seems to require some explanation; and, we are much pleased to find, that we have an explanation perfectly satisfactory, in an interesting paper by doctor Samuel Agnew, who formerly resided at Gettysburg. This publication will be found in the New-York Medical Repository, for 1805.

The present writer, was a fellow-laborer in the treatment of the epidemic, noticed by doctor Agnew; and was one of the practitioners alluded to by him, when he says, "there are three of us who profess the healing art in this place, and numbers through the country; yet, we were all busily employed, and could hardly attend to the demands for five or six weeks, commencing with the latter end of August." We did not keep notes

of this epidemic, but can vouch for the accuracy of the doctor's narrative, since the principal phenomena are well recollected; and we read the publication of doctor Agnew, immediately after its issuing from the press. Our object in turning to this paper, is to point out the cause of the diseases upon which we intend to make some observations: but we shall refrain from further observation, till we have exhibited such extracts, as we deem important to our present inquiry. The epidemic alluded to, existed in the summer and autumn of 1804. It extended throughout a considerable part of Pennsylvania and Maryland.

"The spring, (says our author,) was unusually cold throughout all its months. A great quantity of rain fell; scarcely two days which did not visit us with showers. The farmers were prevented from putting in their spring crops until after the usual season, a considerable time. The same degree of cold, proportionably, continued through the month of June. Double the quantity of rain fell during the spring and this month, that perhaps ever was known to fall in this country, in the same time." Much grass and clover were lost by the rains. "In many instances, whole meadows were destroyed, where they lay low, and on the banks of large waters: the streams were all over their banks a much greater distance than usual. Vegetation, especially of the natural or indigenous plants, was remarkably rapid." Winds said to be almost steadily from the South and East.

We are told that the weather was warm in the early part of the month of July, with frequent showers up to the 19th. "From this to the 26th, it was disagreeably cold; so as to oblige people to wear thick clothing. Fires were comfortable in the evening, nights foggy, dews heavy, and the days smoky, very much resembling what is called Indian Summer." The weather soon became warm and dry again. The remainder of the season presents nothing remarkable, except that it was unusually changeable.

We well remember, that the luxuriance of vegetation, during the early part of this summer, was such as we never had seen; nor have we since witnessed any thing to equal it. In the autumn this fell, and rotted, and became a most prolific source of miasm.

"On the third of July, (says doctor Agnew,) I was applied to, for the first time, for an emetic, to a patient under the intermittent. On the 13th, I was called to see a gentleman attacked with the cholera morbus." Our author goes on to notice the gradual advance of this epidemic; and particularly notices the fact, that

the first clear evidence of the epidemic character of this fever, was manifested in marshy or watery situations—afterwards, the disease became general, “carrying distress into every family, almost without exception.” And, it is said, that “the month of September, was the period in which the epidemic had its greatest dominion.”

It is not our design to write upon this epidemic, except with a view of getting at its cause; but, it may be important, perhaps, to mention, that this first season presented febrile diseases, with the intermittent form predominating; and, hence it was, no doubt, that the bark was not only found useful in the remittent form of the fever, but absolutely indispensable to its cure.

In succeeding years this peculiarity was gradually lost, and the bark became proportionably less useful, or hurtful.

We fully concur with doctor Agnew in his concluding remarks upon the abundant material which existed in the summer and autumn of the year 1804—this fact will be long recollected, by those who witnessed that wide spread pestilence, which was not more general or afflictive, than its cause was obvious—indeed, its cause was presented to the mind of the observer, with a resistless conviction.

There is one circumstance connected with the years under notice, in our present essay, which has not been sufficiently attended to—it is this, that, in whatever way produced, the malaria which gives rise to bilious fevers, continues to exist, and to exert its influence in more or less force, in some instances, long after the main paludal cause shall have ceased to act—a fomes seems to be left from year to year. This opinion is supported by the fact, that when there is a succession of epidemic diseases, they appear earlier in the season, as in May and June, at least in a sporadic form, while in seasons giving origin to a new epidemic constitution, the disease is seldom seen before July. We have seen this verified in this city; and, it was remarkably exemplified in the epidemics of Adams county, now under notice, and hence it is that, we find in 1806, cholera morbus and remittent fever prevailing in May and June; whereas in 1804, the disease appeared later. We may hereafter notice what has been termed a *paludal diathesis*.

It may not be uninteresting to our readers to notice very briefly some other reports upon the epidemic of 1804, which were published in the Medical Repository of New York, in 1805. We shall first notice a paper written by doctor Samuel L. Mitchell. In this paper we find “some particulars of a terrible hurricane which began to the windward of the Caribbee

Islands on the 3d of September, 1804, and proceeded north-westwardly over the Virgin Islands, and Bahamas, on the fourth, fifth and sixth, until it reached Florida, Georgia, and South Carolina, on the seventh, eighth, ninth; and of a furious gale from the north-east which prevailed at the same time, and proceeded south-westwardly until it met the former," &c. This narrative exhibits one of the most destructive and widely spread storms that ever occurred on our coast. We would deem it uninteresting to enter into any detail of the facts narrated in this very interesting paper, because they are, in good degree, irrelevant to the present subject of inquiry. The following fact is, however, so extraordinary as to require a passing notice. "From a consideration of all the details, (says doctor Mitchell,) it appears that the gale extended from beyond the latitude of Tobago in 12° North to the latitude of Wilmington, North Carolina, north-ward of latitude 34°, sweeping a tract of ocean at least twenty-two degrees in extent"—"It appears also that it reached from the longitude of the windward Islands in 60° degrees west of Greenwich, to the mountains and back settlements."

Although in our present state of knowledge of diseases, and of their causes we are not able to make any direct application of the above extraordinary occurrences, still the day may perhaps yet arrive when this kind of information may become useful, and, indeed, taken in connection with the paper of doctor Agnew, already noticed, and those of doctors Duvall, Worthington, McDowell and Ramsey, yet to be noticed, we are forcibly struck with the coincidence of epidemic diseases, and a tumultuous state of the atmosphere. It is true, the storm, alluded to by doctor Mitchell, came too late to admit of our ascribing any agency to it in the production of the epidemic of 1804—But we have already seen, that the early part of this year was remarkable for its coolness, and the great quantities of rain which fell.

We believe with doctor Mitchell, "that at present we know too little of atmospheric movements to determine what was the particular rarefying or expanding cause that, on this occasion, put the windward air into such destructive commotion." But nevertheless we think that the perturbed state of the atmosphere exhibited in a wide spread humidity, winds, &c. together with the hurricane had their antecedent and similar cause; and, that we must ascribe the epidemic under notice to the fault in the atmosphere or weather; or to the same antecedent which gave rise to all these commotions. Whatever be its cause, we think facts will support us in the opinion, that in certain seasons,

and we believe 1804 to have been such an one, a pestilential state of the atmosphere is begotten, and when the poison is accumulated in great force, its influence does not subside for some years—for a time, more or less, according to modifying circumstances. We have been led to believe, that this state of things is produced and sustained by two very different circumstances—the establishment of what doctor Cartwright calls a paludal diathesis and an actual continuance of the same remote cause of disease.

Doctor Ramsey has given some account of an epidemic which prevailed in Charleston, in 1804. He tells us, that “a few cases of yellow fever occurred, prior to the 10th of July; but from that day till about the 20th of September, it might be said to be epidemic” and there were between two and three hundred deaths.”

Notwithstanding the prevalence of yellow fever it appears by the statements of doctor Ramsey, that there was a well marked similarity in the character of the epidemic, seen at Charleston; and that in several counties of the middle states. This appears evident from the fact, that “neglected *intermittents frequently terminated in yellow fever*”—and “several cases of clearly marked yellow fever terminated in low nervous fevers, which ran on to a period of two or three weeks.”—“*The disease bore tonic medicines better and earlier than in the preceding years. Blisters were uncommonly useful.*” We have already remarked, that bark was a *sine qua non* in the remittent of Adams county.

“On the eighth of September, (says our author,) we had a hurricane, which exceeded every thing of the kind since the year 1752. The summers of both these years, (1752, and 1804,) were uncommonly warm, and were followed by mild autumns. The trees which lost their foliage on September 8th,) by the violence of the hurricane, have had it replaced by new leaves. These flourishing with the vivid green of spring, in many instances continue to this day, (14th December.) “Ripe mulberries have been eaten in the last week of November”—We are also told that “caterpillars have made excessive ravages on the growing cotton plants.” It is also said by doctor Ramsey that “the weather was uncommonly warm while the epidemic raged.” No mention is made of the copious, and frequent rains, which prevailed in some other places.

The next account we have of the epidemic of 1804 is from the pen of doctor McDowell, then of York Pennsylvania, now professor of the Institutes in the University of Maryland, who tells us, that “the months of April, May and June this year was an

uncommonly warm season"—"The rains were so heavy as to make the Codorus, (a pretty large creek of that name, passing through the town of York,) overflow its banks several times." It is also said that the farmers lost the "principal part of clover hay, in consequence of the heavy rains and cloudy damp atmosphere." Adjacent to the town there is some flat ground—"a part of this ground is overflowed in the time of high water." Upon this ground doctor McDowell saw "the first case of febrile disease about the middle of July."—This disease soon "became epidemical in town and country." The masses of vegetable matter were such, in some places, as to give out much fetor, especially after sunset. "In my opinion, (says our author,) the connection between cause and effect cannot be more apparent, than that the cause of the prevailing fever was itself the product of putrefaction.

"The fever was most prevalent in those parts of the town adjacent to the *Codorus*. The most elevated situations, however, that in former years secured their inhabitants from autumnal fevers, did not protect them from the prevailing fever of this year."—"In some cases, the loss of eighteen or twenty ounces of blood reduced the disorder to the intermittent form of fever or ague." The fact here expressed would seem to shew, that there was an aguish constitution of the season—our author is, however, silent on this point—he tells us, however, that the disease was "mostly ushered in by a slight chill." Be this as it may, it is very certain, that the usual malaria of intermittents and remittents was generated by the summer of 1804, in the neighborhood of York to an unusual extent.

Doctor Charles Worthington has written "a narrative of facts concerning the intermittent and remittent fevers, prevalent at George Town." We are told that "the long continued series of moist warm weather, and the frequent rains that occurred in the course of the last spring, and early part of summer, produced a more abundant vegetation than is usual in this part of the country. The fields, meadows, and low grounds were all covered with an uncommonly luxuriant growth of grass, weeds, &c. and there was an appearance of an abundant hay harvest, but the wet and cloudy weather continuing till the time of harvest, large fields of clover extremely luxuriant, were suffered to fall and rot upon the surface, or if cut, it was thrown into heaps, and so remained until it rotted, there not being a sufficiency of dry weather and sun to cure it. About this time too, there were heavy falls of rain, which overflowing the meadows and

low grounds, bore down the grass, weeds and shrubs, and deposited upon them large quantities of mud and filth."

Doctor Worthington goes on to state, that "the flood breaking down many mill dams, left at this unfavorable time, a large portion of their bottom grounds exposed to the warmth of the sun; and to "this I think, (says the doctor,) may be attributed, the unusual prevalence of intermitting and remitting fevers." Intermittents and remittents were general and more than usually prevalent; "but their ravages were confined principally, to the vicinity of overflowed grounds, and drained mill ponds, while remote situations in the more elevated, level and poor lands remained healthy." Doctor Worthington goes on to point out some particular locations, but it is our object merely to show the common, and wide spread cause of the epidemic of 1804. It not being any part of our purpose, on the present occasion, to write upon bilious fever, we shall pass over the symptoms and treatment of the disease, noticed by our author, and proceed to give a slight sketch of a paper written by doctor Grafton Duvall, of Frederick, Maryland.

"A history of the extraordinary season of 1804; and of the luxuriant vegetation, great rains, and subsequent sickness in August, September, and October, as they appeared near the river Monocacy and in the upper part of Maryland; dated July, 1805."

Doctor Duvall tells that there was but little disease in his neighborhood in the winter of 1801—2, some pleurisies, catarrhal fever, &c. The summer of 1802 was remarkable for the variableness of its temperature, &c; and cholera prevailed a good deal among children; "it was obstinate and fatal to many." As autumn approached, I found the number of sick increased, affected with remitting and intermitting fevers. These fevers, in October were reduced to a symptomatic colic.

We are told that the summer of 1803 was healthy, if we except the cases of diarrhea and cholera amongst children." In the autumn, "chills and fevers took their rise. "In the tract of country bordered by the Potomac, the Monocacy, Callinger's creek, and the Catoctin mountain, in length about twelve or fourteen miles, and in breadth about eight or ten, the inhabitants were much affected with chills, and the different types of bilious fevers." In the winter diseases were inflammatory, and became nervous—"This was a fatal winter to persons affected with pulmonary complaints."

"The vernal rains began about the latter end of March, 1804. They continued generally throughout April. In June there was a rise in the Potomac and its tributaries never known at that season of the year by the oldest liver on their courses. On the



Potomac, the bottoms were inundated, and immense quantities of corn, rye, tobacco, hay, and rails were destroyed and swept away. In the interior of the country, almost all the first crop of hay, both timothy and clover, was lost."—"It would be almost incredible to relate the quantities of this produce which was lost and suffered to lay and run into a putrefactive state"—this we are told was general.

We are informed by doctor Duvall, that the amount of disease was much greater in those sections of lands upon which there was the most abundant vegetation, and that upon some of the poorer lands, its cultivators were quite healthy.

"In many places of our country, (says doctor Duvall) it was no uncommon complaint that a strong, disagreeable, offensive odour was constantly perceived. This must doubtless have originated from putrefaction." He says there was an unusual tendency in cabbages and other culinary vegetables to rot. In short our author's writings with those we have already quoted, show that there was so obvious a relation of cause and effect in the epidemic of 1804, that it could not be mistaken. There are, however, a few more facts connected with our present subject noticed by doctor Duvall, which we think worthy of especial notice.

Speaking of the South and Catocin mountains it is said—"These situations in former years have been remarkably healthy"—"during the late prevalence of the epidemics, however, they were unhealthy to the last degree; and although it did not begin to rage in the very first instance in the elevated situations, it certainly soonest became general among them." This is a very important fact, since it goes to corroborate the generally received opinion, that miasm is the product of vegetable putrefaction, and of course decidedly opposed to the new opinion, that ordinary summer and autumnal fevers are the product of simple watery evaporation.

We are told, that after the abundant rains of spring—"about the latter end of June, the weather became uniformly clear, dry, and warm." In July, "the heat was almost insupportable."—"There were more persons overcome with heat in the harvest fields than I recollect ever to have heard of in one season."—Some deaths took place. This epidemic "*fell with the most severity upon the poor.*"

Doctor Duvall after noticing the various remedies which were employed in this fever, says—"they were all preparatory to, or made way for that invaluable remedy and antidote to intermittents, the bark. The benefits derived from it by thou-

sands, attest its value, and bespeak its praises." This fact has been noticed by the other writers whom we have quoted. The following remark is too important to pass over. "We were often constrained to prescribe the bark, even before any intermission in fever had taken place. Whenever the remission was considerable or sensibly to be perceived, the medicine was administered in such cases with considerable benefit. In those instances headach also presented no obstacle, and I have observed this symptom, with fever, heat, thirst, &c. all decline as the bark was persevered in. In the intermissions bark was pushed to the utmost to prevent a recurrence of the fever. An ounce a day was frequently taken with the successful effect of putting a stop to the disease." These facts are truly important, because they serve to prove that notwithstanding the striking similarity between different febrile epidemics which are known to arise from one cause, still there are inscrutable differences which call for difference in the treatment, so that in some seasons the bark is an indispensable remedy in remittents, while in a majority of seasons it is altogether inadmissible, and if employed, would prove generally destructive.

Having been extensively engaged in the epidemic of 1804, we can bear testimony to the unusual benefit which attended the use of the bark. We shall not, however, attempt to dilate upon our practice during the epidemic now under consideration, since we did not keep any regular notes. We have deemed it advisable, nevertheless, to present the following very brief sketch, which we found at the present time among our loose papers.

Doctor Samuel Agnew has given an account of the weather, and of an epidemic disease prevalent in this neighborhood, in the year 1804, *Medical Repository*, Vol. 10, page 345. Having followed the same practice nearly, I have little to add. I used the *Cornus Florida*, (Dog-wood) bark in the form of powder, mixed with cinchona, in the proportion of one-third, half, or two-thirds of the former, in the intermittent and remittent; I found the mixed article as efficacious as the cinchona alone. Intermittents continued throughout the following winter and spring. In the summer of 1805, dysentery prevailed to a very alarming degree; it shewed greatest malignancy in those places where the fever had prevailed most the preceding summer; where early application was made, purges with alkalies and anodynes, very seldom failed to check the disease, in a few days; bleeding where the sanguiferous system was much hurried in its functions, was very useful; a considerable number

died who had been backward in applying for medicine, or where astringent medicines were administered without advice.

It may not be amiss to remark, that the fruit was all destroyed this year, and, therefore, it could not be the remote cause of dysentery, as many of the country people imagine. The winter of 1805--'6 passed away without any thing remarkable; it was a very cold winter, and favorable to winter grain. In May 1806, a few cases of remittent fever occurred, accompanied with bilious symptoms. Cholera Morbus prevailed the latter part of May, and throughout June, very much; it yielded in a surprising manner to a solution of soda, in spear mint water, which is a very valuable alkaline medicine, both on account of its taste and effects. In the latter part of summer, a considerable number of cases of remitting fever occurred, particularly in town, where we had been almost exempt from the dysentery, the preceding year; this summer was uncommonly dry; springs and wells went dry, that never had been dry before.

Let us now turn our attention to a few cases of disease in the year 1806. In doing this we shall literally copy from our note books—we there find the following cases:

*Case 1.* "May 22d, 1806.—James Williams, (this was a young man.) First case of remittent fever—called on eight days after the attack, extremely ill; great heat and burning in the stomach, and violent vomiting—uncommon loathing of food; insatiable thirst; stiffness and severe pains of the arms and legs; light chills every other day, but constant burning fever. Vomited great quantities of blood, as I was informed; *his skin and eyes very yellow.* Venesection ad  $\frac{3}{4}$  xvj. R. Fol. sennæ, mannæ. supertart. pot. aa ʒij. carb. sodæ. ʒj. misce f. decoctio. This decoction taken in small doses quieted the stomach, relieving both the vomiting and pain in that viscus.

23d. R. Pulv. Jalap. submur. Hydr. aa gr. x. S. Sumend.

24th. Venesection ad  $\frac{3}{4}$  xvj. To be succeeded by Hamilton's nitrous mixture, which is composed of nitrat. pot., sugar candy, vinegar, and water. This patient had a slow recovery."

*Case 2.* "May 23d. David Schitz attacked last night about 11 o'clock, with Cholera Morbus—saw him at 7 this morning, symptoms very violent—to appearance just expiring, eyes sunken, and turned up—constant vomiting, great burning and aching in the stomach. Patient observed that his heart felt as if confined in a press—pulse scarcely perceptible but corded, and very frequent; alarming cramps; extending from the lower extremities to the abdomen. R. Carb. sodæ ʒss. aq. puræ cochl. magn. x. Capeat cochl. j. hora. semissis. Gave 60 drops

of laudanum. Vomited immediately after the laudanum but was easier. Venesect. ad.  $\frac{3}{4}$ x. Half an hour after the first, he took a second dose of laudanum forty drops more were given—was perfectly easy in half an hour after the second dose of laudanum. Patient recovered speedily.”

*Case 3.* “May 24th, 1806.—Mrs. Welsh has had slight headach several days—violent to day—with excessive vomiting and indescribable sickness of stomach—expresses her feelings by saying, she felt ‘precisely as if she had taken an emetic.’ Advised a scruple of carb. sodæ, in 10 table spoonfuls of cool water—take one spoonful every half hour till easier, then less frequently. Second dose quieted the stomach, and she slept well all night. Very soon recovered.”

*Case 4.* “May 26.—Peter Kulp complains of pain in the stomach and intestines, since the 21st instant—this day attacked with Cholera Morbus, slight fever, suffused eyes; abdomen inflated, so as to appear through his clothes. Gave the soda mixture, with 10 drops of laudanum in each dose, every half hour—third relieved the flatus. This mixture continued, at longer intervals, soon relieved the symptoms.”

*Case 5.* “June 2d.—Christian Kreitzman attacked on the 30th ult. with cholera. Symptoms have been increasing, very ill to day, complaining particularly of feelings of coldness. The mixture of soda and tinct. opii. relieved him in three or four hours.”

*Case 6.* “June 8th.—Nicholas Cronbaugh’s child, high fever since yesterday, headach, vomiting, &c. Gave soda in pills. 9th. Somewhat better, no appetite—gave dose jalap and calomel, operated pretty well; recovered speedily.”

*Case 7* Isaac’s wife, (a white woman) June 9th.—“Violent pains in the head, back, and bones; stitches in her side; high fever. Bled to 16 ounces—decoction of senna, manna, and carb. soda, operated well. 11th. No better, bled again—mended slowly after this bleeding; nitrous powders gave great relief.”

Before we proceed further with our cases, we shall stop to notice a fact involved in the following memorandum, which we deem of the highest importance. “Nothing remarkable occurred in my practice during this month. Three or four persons have died near town of dysentery—disorder prevails in one neighborhood only; this is situated between two large mill dams, on the Marsh creek, and rock creek, about three miles apart.” It appears, by our diary, that we did not attend any of those cases of dysentery, it being a neighborhood in which we were little acquainted.

This memorandum has allusion to the month of June; and, it will appear singular to those acquainted with the diseases of Adams county, or those adjacent, assimilated in the more usually acknowledged causes of epidemic ailments, to see dysentery prevailing epidemically in this month. The fact here recorded, goes to substantiate, with great force, two points connected with malaria:—

1st. That dysentery is produced by a modified state of the same malaria, or poison, which gives rise to bilious fever.

2d. It establishes, we think, beyond all doubt, the opinion, that when malaria is generated in great quantity, it may lie dormant during the winter—not being destroyed, but merely depressed, by the frost of the autumn. Believing, as we do, that these are points of great importance, we shall waive any investigation of them for the present, till we shall have terminated our list of cases of disease, in the year 1806.

“Case 8.—Jacob Wertz, June 30th, just from Baltimore, overtaken with fever on the 28th inst. at night—fever was but moderate. This day, at 12 o'clock, attacked with violent fever; bled about 20 ounces; gave solution soda in mint water.

“July 1st.—Somewhat better—moderate fever: venesect. ad  $\frac{3}{4}$ xxj. cathartic of jalap and calomel.

“2d. Was much better in the morning. At 12 o'clock, fever returned with extreme violence. Saw him at 2 o'clock, bled to twelve ounces. This patient, from the beginning of his illness, has complained of extreme burning in his throat and stomach. I have never seen so high a fever, nor have I seen a person apparently suffer so much. Skin and eyes very yellow; has severe vomiting at present. Took nitrous powders to day; thinks they did him much harm; obliged to go to bed soon after taking the first. After bleeding, gave solution of soda: the bleeding did much service, and he found relief in the stomach, from the mixture of soda. Objected to-day to the bleeding; immediately afterwards observed, that nothing ever gave him so much relief; and he now asked, as a particular favor, that I would attend at the next accession of the fever, that I might bleed him in time.”

“3d. Much better; gave manna, cream of tartar, and senna.

“4th. Another paroxysm, not quite so violent as the former; bled about 20 ounces; he was extremely weak after this bleeding.

“5th. Prescribed cinchona in ordinary doses; had but one slight paroxysm after this. Soon, apparently, in fine health, but this was soon interrupted by an attack of intermittent fever, which harassed him from time to time, during the remainder of the season.

"Case 9. Miss Campbell. Attacked on the 29th June with slight chill and fever, but did not go to bed. Second day afterwards, symptoms returned at day light. High fever, bad taste, great anxiety, and difficulty of breathing; return of chills at 10 o'clock. These symptoms, were succeeded by violent spasms in her arms and legs, great oppression, or sense of sinking; family thought she would die. At five o'clock much better, no cramps, fever moderate. Directed cathartic of jalap and calomel, to be given next morning.

"3d. Has had constant fever, though moderate. Bled her 12 ounces; very faint after bleeding; gave 20 drops tincture of opium and spirit ammon. Evening cathartic of senna, cream of tartar, and soda. Operated freely. This patient is a delicate female.

"5th. She tells me she was much relieved by the bleeding. Directed bark to be taken, when clear of fever. When feverish, to take a mixture of crem. of tart. and sugar candy. Had one chill after using bark; soon recovered."

"Case 10. Mrs. M. July 1st.—This is the first case of dysentery in my practice this season—of fourteen days standing. She has high fever; bled ten ounces: she is fond of spirituous liquors: gave mixture of tinct. opium, tinct. kino, and mint water: gave much relief.

2d. As yesterday, gave cathartic, senna, &c.; succeeded by pills sulph. Zinc. and opium. Also R. sulph. magn.  $\bar{z}$ j. submur. hydr. gr. x. tart. emet. gr. j. divid. in chart. No. x. Capiat j. mane et vespere. This is a very frail woman—slow recovery. This woman's husband complained of dry gripes, with some fever. Dose of jalap and calomel relieved him entirely. This dose of medicine, seasonably given, probably prevented an attack of dysentery.

Remarks on the weather, in the month of June, 1806. "This month has been extremely dry—a few days of the last of this month excessively sultry. July 2d. Very cool and windy. 3d, very fine, but cool rain, without thunder or lightning. I think we have never, within my recollection, had so little of the usual electrical phenomena. 7th July, slight showers nearly every day this month.

"Case 11. John Hetzer, July 7th—Remittent fever: commenced last night with high fever. Delirium, common attendant, when he has high fever. Pain in his back and stomach: very sick and faint, upon motion. Pulse tense, not frequent: bled slightly in the morning—fever less this evening than last night—has had frequent chills to-day. Directed in the morning R. Fol.

senna, manna, à ʒij, carb. sodæ ʒj—operated well. Evening, venesection ʒxx; was near fainting, although bled in the supine posture.

"July 8th. Better in the morning. Gave portion of submur. hydr. and jalap. Return of fever, with pleuritic symptoms. Bled to 16 ounces.

"9th. Much as yesterday: nitrous powders, with antimony, &c.; evening, venesection. to 16 ounces.

"10th. Had a very restless night; fever abated this morning; to take nitrous powders—they sickened him so much, that he declined taking them. Evening, bled to 12 ounces.

"11th. Fever nearly gone; complains of severe pain in the left side of his breast. This part has been the seat of severe pleurisy. Recovered pretty rapidly: light nutritious diet: no bark given in this case.

Case 12. Capt. James Duncan. Overtaken last night, 8th of July, with severe cholera morbus; has had a lax all day yesterday; little pain or sickness in the evening; no appetite for supper, but drank a little porter, and eat a little milk and cherry pie. R. carb. sodæ ʒss. aq. puræ cochl. magn. x. Spoonful to be taken every half hour. Second dose checked the vomiting. Soon slept, and awoke with a slight fever on him. Felt drowsy, although no opium was given. Mixture at intervals of two hours. Soon recovered, without any other medicine.

Case 13. July 15th. Samuel Hays' child.—Dysentery, with high fever; cathartic of senna, manna, and carb. sodæ. Evening, mixture of aq. menth, carb. sodæ, and tinct. opii. 15th, a little better; gave rhubarb and calomel in powders; had a natural stool. 16th, apparently better, gave dose castor oil. 18th. It was thought that the oil did harm. The mixture was said to afford much relief, and the child soon recovered under its use.

Case 14. July 15th. Mrs. Troxall, a young married woman. Dysentery; passes great quantities of blood, since 13th instant; no appetite; thirst great; griping extremely severe. Prescribed mixture soda, mint water, and laudanum. 16th, much relieved, but purging continues; gave castor oil, and opium pills. Soon recovered.

Case 15. John Hosler's child. July 22d. An attack of urticaria, attended with swelling of the face, and extremities. Gave cathartic of senna, manna, and carb. sodæ. Soon recovered, without any further treatment.

Case 16. July 23d. Child. Summer purging, for some time neglected, and now extremely violent, with vomiting, and total

loss of appetite. Gave dose rhubarb and calomel; operated freely upwards, and once downwards. Vomiting ceased, but the stomach continued very sick, which is evinced by frequent retching—and the child exhibits signs of pain in the belly. Gave solution soda in mint water. She passed a restless night, and appears ill to-day. 24th. Some appearance of convulsions.—25th. Directed to continue the solution. Termination not noted, but this patient soon recovered.

Case 17th. July 29th. John Leddy. Some difficulty of breathing, and had a renewal of old pains of his back, which removed to his breast, where there is now severe pain. Does not feel much sick, but belly much inflated with wind. Gave aperient doses of salts; tart. ant. and calomel. Also, pills of opium, and carb. sodæ.

Case 18th. Henry Smith's child. Dysentery, eight months of age. R. sodæ gr. viij. tinct. opii. gr. xl.; water, 14 tea spoonfuls; to be taken every two or three hours. This child died in two or three days after we saw it. First case of death in my practice this season.

Case 19th. George Conter, Aug. 3d. Boy.—Violent vomiting, and great oppression; costive; high fever. Gave soda, in mint water; cathartic of jalap and calomel. Recovered speedily.

Case 20th. Aug. 3d. Balser Pitzer's daughter. Violent headach, and sickness at stomach; sore mouth; formerly affected with chlorosis. An emetic, and two grains of tart. ant. to be put into a pint of water, and take one spoonful morning, noon, and evening. R. opii. ipecac. à gr. vj. pil. No. xij; two to be taken at bed time, each night. 8th. Patient not so well: catamenia appeared yesterday, but not healthy in color or consistence, as her mother reports. Sick stomach and headach very distressing. Directed to continue former medicines. Also prescribed mixture of laudanum, vit. ether, and fetid tincture, 20 drops, three times a day.

11th Aug. Patient no better; severe pain of the head and jaws. R. submur. hydr. gr. xxxvj. pil. no. xxxvj.; one, morning and evening; also mixture tinct. opii. pars. j, sp. nitri dulc. pars. ij. ol. anisi. q. ss. tea spoonful every night, at bed time.

20th. Complains of being much worse, mouth very sore; has been taking four pills per day. They have operated severely upon her bowels. Varying pains give rise to the belief, that the case is inflammatory. Directed crem. tartar whey, to be given freely, and to lose 16 ounces of blood; if not better, in three or four days, bleed again half that quantity.



22d. Some improvement, but her mouth is extremely sore; prescribed mouth water, and directed a blister to the neck. Has been bled as directed on 20th. Directed a repetition.

31st. A good deal better; mouth nearly well, sleep very imperfect, and still a want of appetite. Prescribed 30 drops of elixir vitriol, to be given daily, in about a gill of water. R. Rubig. fer. ʒij. myrrh, ʒj. aloes soc. ʒj. pil. no. lxiv. Two pills morning and evening. Also, bitters of orange peel, gentian, anise-seed, in spirit and water."

The memoranda of this case stop here. We well recollect, that this patient soon recovered. We may remark, that our observations are confined to disease of an epidemic character. The above case was, we believe, a case of chlorosis, modified by the bilious influence prevailing in this neighborhood at the time.

Case 21. Christian Kulp—cholera morbus. Vomited blood and bile mixed: great prostration of strength; difficulty of breathing; discharges per anum involuntary: pulse feeble and fluttering. Had slight chills three days preceding this attack, and also some feverishness. Prescribed carb. sodæ, ʒss. aq. menth. eight table spoonfuls. To be taken every fifteen minutes, till three doses are taken—afterwards, every half hour. Third or fourth dose completely relieved the vomiting: breathing much relieved. About an hour and a half after the first visit, bled him about 12 ounces.

12th. Much better this morning. The vomiting returned about two o'clock last night, but very little of any thing thrown up. The solution of soda in mint water, checked this symptom very promptly.

13th. The vomiting returned about 10 o'clock last night: the solution checked it again; but a great deal of oppression and burning heat remained at the stomach. Early this morning, the vomiting returned with violence; threw up bile mixed with blood; severe purging, with little fetor attending the evacuations; intolerable anxiety, and very extraordinary commotion in all the viscera; much difficulty of breathing. Directed tinct. opii. gt. lx. This was thrown up in about five minutes, accompanied with a good deal of bile, and a little blood. Patient, to appearance, was on the point of expiring: soon as the vomiting abated, gave thirty drops laudanum—bathed his feet in warm water. The last laudanum lay on his stomach, but he had one copious stool. When attempting to return to bed he fainted, and a severe spasm occurred, which affected his whole muscular system, and drew his head considerably backwards, with his eyes open, and much distorted. To appearance dead, but on feeling his

pulse, I felt it sufficiently, to afford some hope: washed his face with vinegar: after he had laid about 15 minutes in this swoon, he opened his eyes suddenly, and appeared frightened, and said he had been sleeping. Continued easy after this: 20 drops of laudanum were however given, because he complained of some pain and heat in his stomach. This relieved all his distress, and he lay quite tranquil: directed 20 drops more of the laudanum to be given in the evening, with mint water, and soda mixture. He was deranged in mind about two hours after the fainting. I forgot to mention, that about sixteen ounces of blood were drawn just before he rose to the close stool, and probably contributed to his fainting.

14th. No inclination to vomit since yesterday; restless all night; pretty easy this morning. On account of bilious condition, directed a dose of jalap and calomel: it operated pretty freely, and weakened him greatly. About 11 o'clock, very great debility, with difficulty of breathing, and burning in the stomach, came on; pulse pretty full; opened the orifice made yesterday, and took about a gill of blood; he fainted, and I was compelled to desist. Apprehensive he would die from the debility: gave him thirty-five drops of laudanum, and directed the application of garlic to his feet. In about one hour, gave 20 drops more of tinct. opii. with some ether. Directed mixture of laudanum and ether in small doses, every two or three hours. Evening, appears to be much better, but feels very weak, yet his pulse is tolerably regular and full.

15th. Much better, but did not sleep well last night—is now free from pain or uneasiness of his stomach, and inclined to take a little light food; pulse full and feverish. Took 60 drops of laudanum, with some ether, during the night. To day, senna, soda, &c. as a purgative. Thought he was much benefitted by a drink of small beer.

16th. Improving, but still a little fever—some appetite returning, no stool yesterday—continue the infusion of senna, &c.; and take 30 drops of laudanum in the evening.

17th. Continues mending, appetite pretty good, thinks he is stronger but not able to set up, still no stool—continue the senna, &c." Here our notes of this case end, but this patient recovered, and enjoyed his usual fine health, in a few weeks. The reader cannot doubt about this having been a very dangerous case. Whether we were faulty in not having recourse to calomel and other active cathartics is, perhaps, a question; we were then young in the profession, and it will be seen by the foregoing cases, that a more simple form of cholera had been preva-

lent, and had readily yielded to mild treatment. For ourselves we are pleased to think, that under the circumstance we did our patient justice.

*Case 22.* August 15th.—Widow Gilbert, called in the morning for a purge, and informed me that her daughter, aged fifteen years, had been about a week affected with headach, and sick stomach, and was now costive. Gave jalap, gr. xiv. calomel gr. vj.—operated very well. In the evening had a most violent fever, and intolerable headach, and an aching in all her bones—bled about 12 ounces. She thought the bleeding gave her much ease, fever soon abated a little. Directed tinct. opii. one part, sp. nitre dulc. two parts, ol. anisi q. ss. After I left her, but before she took the drops, she became suddenly worse—fever now very high, and headach much increased. Opened the orifice, and bled about 8 ounces—fever abated soon afterwards, but the pains continued till about 12 o'clock at night.

16th. Much better—no fever—now informed that her menses stopped suddenly a few days ago. Evening, continued pretty well all day, now some fever—suspect she has eaten too much; took dose senna, manna, and soda in the morning; it caused her to vomit; not able to sit up this evening.

17th. Morning slight fever, but little headach. Gave portion jalap and calomel. About 12 o'clock seized with a chill—soon succeeded by severe fever and headach. Bled about 8 ounces. At 3 o'clock fever and headach still increasing—a second bleeding; took 6 ounces of blood—purge has not operated; much pain in her belly, with much flatus of the stomach. Advised salted gruel to encourage operation of cathartic. Fever disappeared suddenly about 7 o'clock in the evening; patient had a little appetite for food. When the purge operates, give 25 drops of the mixture of laudanum and sp. nitre.

18th. Much better, no fever, very weak, some appetite; medicine did not operate yesterday. Gave ℥j. castor oil, to be given in small doses till it operates.

19th. Patient pretty well in the morning, very little fever, no appetite. About 10 o'clock, a severe chill came on, and was succeeded by fever, headach, &c. but not near so severe as the last paroxysm. Gave castor oil in the morning, operated well. Afternoon gave ℥ij. crem. tart. to be put into pint of hot milk. This whey afforded much relief—evening, 25 drops as yesterday evening.

20th. Has been better to day—slight chill about the middle of the day. Some fever in the afternoon—rested better last night than any night since her sickness. Gave three drachms

of crem. tart. to be put into three half pints of hot milk; take all the whey to day.

21st. Has been feverish all night, some fever this morning, about 9 o'clock, A. M. the fever left her—she became perfectly easy. This continued about an hour, when a chill came on amounting nearly to a shake, and continued an hour, succeeded by a smart fever, headach, &c. This morning, took about 8 ounces of blood, and directed Hamilton's nitrous mixture; table spoonful every two hours. Fever went off about 5 o'clock.

22d. Much better this morning, no fever, some appetite, and eat some stewed chicken---rested well last night. Directed to continue the nitrous mixture."

Our notes of this case end here, but it may be seen, that, in this case particularly, and in a slight degree in several others, that, at this early day, the writer of this was far from being a nosologist. Here are chills, intermissions, &c.; yet, the aspect of the case was such, that we used no other stimulant, or tonic, except some very small doses of laudanum, and spirit of nitre. This patient though delicate, soon regained her health, as we distinctly remember.

Case 23. August 18th.—Miss —, aged upwards of twenty years, attacked suddenly with severe pains in her back, hips, thighs, and knees, 12 o'clock—for sometime pregnant, apprehensive of a miscarriage; no waters discharged, though she thinks the abdomen has lessened; slight bearing down pains—pulse feeble and fluttering; skin cool. Directed 30 drops tinct. opii. —fifteen to be given every hour till pains abate---bled her 12 ounces. Evening, bled 16 ounces; gave 25 drops of mixture of ether and tinct. opii. If not easier in half an hour, put her into a tub of warm water—this gave much relief—20 drops ether, &c.; ten drops to be repeated every hour till she is easier—repeat the bath every two hours.

19th. Very little better; violent pains in her whole body at times; constant toothach, and pains in her belly and back; a little fever in the morning. Directed continuance of warm bath, and take dose of castor oil. In the evening, informed that she had been setting nearly all day in the bath, having no ease except while in it. She is extremely impatient, tossing constantly like a distracted person; has had several hysteric fits this evening. Directed decoction of glauher salts, senna and manna. After it operates, give forty drops of laudanum; and if not easier in an hour, 30 drops more—apply blister to the back.

20th. A little easier this morning—they gave her the drops last night before the medicine operated—did not apply the blis-

ter. Directed spoonful castor oil, every hour till it purges her ---sick stomach in the night.

21st. She has had pains in her abdomen ever since I saw her, but has longer intervals of ease---purge operated but little ---pretty high fever. The blister was applied yesterday and drew well. This evening, I took 12 ounces of blood, and directed solution of soda in mint water.

22d. The solution of soda afforded immediate relief---rested well last night, weak and faintish this morning---feels pain now and then in the abdomen, which abates upon taking the solution of soda.

25th. Case continues pretty much the same---requests me to send more of the solution." This patient soon recovered.

Case 24. "August 22d.---Mrs. Campbell, aged about forty; remittent fever, three or four days unwell---yesterday and to day extremely bad, with a pain in her back, and head; also, in her bones; high fever without any chills, inward heat, great drought. Attacked to day with violent vomiting, which ceased upon drinking balm tea. Bled about 16 ounces---directed solution of soda every two hours.

23d. Experienced great relief from the solution---was up during the forenoon. About 3 o'clock, slight chill, succeeded by slight fever. Directed infusion senna, &c. to be taken in divided doses---continue the solution of soda.

24th. The fever mentioned yesterday increased, and continued all night---about 10 to day, the vomiting returned, and the fever run high till 4 o'clock, afternoon---at this time, the solution of soda was taken and checked the vomiting, and abated the fever. The cathartic mentioned yesterday, operated well. Catamenial discharge came on since my visit yesterday.

25th. Found patient setting up, no fever. 26th Saw her again; no fever; no appetite. Directed 10 drops elixir vitriol three times a day.

28th. Has continued mending since last account---she thought the acid did her much good---appetite now good." Soon recovered.

We shall here close our diary for the present. We have presented all the cases of an epidemic character, which came under our notice. It will be seen, that, they were by no means numerous this season, notwithstanding the fact, that we had cholera, and remittent bilious, in the latter end of May, and month of June. It seems proper to remark, however, that remittents became much more common in the fall months, than during the summer, as is usually the case.

The fevers of this autumn may hereafter become the subject of notice, as also, the influenza, which prevailed in 1807. We shall conclude the present inquiry, by a few remarks by way of recapitulation.

We have said, that we believe dysentery is produced by a modified state of the same malaria, which gives rise to bilious remittents and intermittents. In support of this, we need only look back to the writings of doctor Sydenham, and to observations which we have had an opportunity of making; and, which we have already given. Thus it appears, by the several authorities which we cited, and our own observations, as one of the physicians of Adams county in 1804, that the peculiar state of the atmosphere or weather of that year, not only gave rise to a very abundant febrile poison, but that it, in an especial manner, predisposed to the intermittent form of fever. And here it was, that the bark was given with good effects, even in remittents; and, indeed, according to our observations, was a *sine qua non* in its successful treatment. Whereas, it will be seen, by turning to cases No. 1, 22, and 24, in particular, as well as to some others, that the bark was not indicated---nor were any intermittents seen this season, which we deem an important fact; since it proves, that where intermittents and remittents prevail together, the remittent will assimilate the ague in its nature more than where agues are absent.

We have seen, in the foregoing observations, that, all the circumstances usually reputed productive of a certain febrile poison, prevailed to an unusual extent in 1804; and that, as might have been expected, *a priori*, we had a proportionate amount of disease. It also appears, that in the succeeding summer, we had a very general and fatal dysentery prevailing, without any thing remarkable to account for the appearance of this disease; and, moreover, we not only had more of the dysentery, but it was more fatal in wet locations, where the ague, &c. of 1804 had most prevailed; and, in the succeeding spring where, as yet, no possible elimination of new poison could have occurred from heat, moisture, &c. we had a mortal epidemic dysentery prevailing in one neighborhood only, between two mill ponds, around which the epidemics of 1804, and '5, had shown their greatest terrors.

These facts are of themselves sufficient to establish the opinion, that, dysentery is the offspring of malaria, and we think, render the opinion almost unquestionable, that the ordinary malaria is produced in some seasons in great quantity; that it is suppressed, by white frost, but not killed by it---that it grad-

ually undergoes changes, whereby the character of such diseases as it produces, from year to year, is made to differ.

That there is a sort of paludal diathesis produced by this febrile poison in some seasons, we have no doubt; but this must always be a personal affair, and cannot well be made to solve the difficulty attending cases similar to the epidemic dysentery of the spring of 1806, of Adams county, as already noticed.

There is a very strong objection to the admission of the agency of a paludal diathesis, as suggested by doctor Cartwright, as prevailing in certain situations, and giving rise to febrile disease; in the fact that persons so exposed, and, therefore, laboring under such diathesis, are less liable to ague or remittents in many cases, than strangers. We nevertheless believe, that such a diathesis does occasionally exist, and serves to modify common inflammatory cases of disease from cold, into various grades of bilious fever; but we cannot surely ascribe an epidemic dysentery, located in a certain miasmatic situation, to such a cause. There is, therefore, but one solution, we think, to the question—what is the cause of such an epidemic?—which is this, the poison, produced in a prior year, continues to exist enfeebled, till the season arrives which though not sufficiently warm to form new sources of poison, may have power to elevate, from its depositories on the surface of the earth, a portion of febrile poison, and give rise to epidemic cholera, remittents, &c. The same change of temperature which serves to clothe the vegetable world with its verdant vesture, may be sufficient to raise, from its miry bed, the malaria which had lain quiescent during the winter; perhaps, deposited a little below the surface, and thereby saved from the effects of the frost. But if we see the tender roots of many of the vegetables outliving all the congealing and refrigerating influences of the winter, why any difficulty in believing, that a certain chemical compound may not also outlive the rigors of winter. The contrary opinion seems to have arisen from the well known fact, that in general, white frost cuts off bilious epidemics, with absolute certainty. This only shows, however, that it prostrates the poison for the time; and it does seem to us almost beyond doubt, that the poison is merely suppressed. Or it may be, that the portion of poison actually afloat in the air may be decomposed or destroyed—but that a mass of material lies buried below the surface, which was on the very point of giving off poisonous gas; its completion is interrupted, by sudden change of temperature; but the material being thus ready to send forth its aerial product, lies inac-

tive till the sun of spring gives new impulses, and then those operations which were nearly completed in the autumn, are finished in the spring; and thus, we have the produce of another year elevated into the air we breathe.

It is obvious that this process will depend upon the more or less perfect combination of the necessary circumstances for its completion; we must, it may be presumed, have abundant material; no very material alteration upon the premises holding the material—a suitable state of weather, humidity, &c. &c.; as these may combine, in more or less effective force, so will be the greater or less amount of the product. We may have occasion to look into this subject hereafter; at present, we wish merely to say further, that we believe it to be an inquiry of importance, and one to which comparatively but little attention has been paid.

There is one point connected with epidemics, which we deem too important to pass over, it is this: Remittents in 1804 required bark; in after years it was inadmissible. This is, therefore, one of the hundreds of facts which might be brought to show, that each epidemic requires its own peculiar treatment. He that does not look to this will not be a successful practitioner.

**ART. V. *A Treatise on Neuralgic Diseases dependent upon Irritation of the Spinal Marrow and Ganglia of the Sympathetic Nerve.* By T. FRIDGIN TEALE, &c. pp. 117. 1829.**

Taken from the *Medico-chirurgical Review* for January, 1830.

It will be perceived that we here copy a brief review of the work of doctor Teale by the editor of the *London Journal* just named. The remarks of the doctor are distinguished by not having quotation marks as have the paragraphs quoted from the said work.

**T**HE influence of the spinal marrow upon a state of health or of disease is abundantly testified by the many and disastrous ailments which follow its derangement. But the precise nature of this influence has not been determined with sufficient certainty, the full extent of its results has not been fairly measured, and a thousand symptoms are every day ascribed to nervous irritation, without affixing to this ascription any practical import, or giving to the derangement which it is employed to designate any precise habitation. If pains be felt in the parietes of the chest, or integuments of the shoulders they are ascribed to rheumatism; if seated in the head they are denominated "*sick headach*;" if we



be oppressed with ennui it is because we are *bilious*; if tortured with convulsions, then we are *nervous*. Cramp is explained when it is called colic; tremors when we are said to be irritable. The nervous system sympathises with some gastric disturbance if we complain of *tic*, and a few unmeaning vocables, as *nervous*, *bilious*, and *hysterical* are sufficient to supply us in all such affections with appropriate and abundant nomenclature.

But, however, unsatisfactory and ill-defined our knowledge of spinal maladies has hitherto been, the ganglionic system presents a subject of a still darker nature. The very origin of the sympathetic nerve was unknown, if it be even yet universally agreed upon; and its functions and diseases are still placed by many in the *terra incognita* of the map of human knowledge. One considers it the grand conductor by which a thousand sympathies are created and preserved; another asserts that its ganglia may be torn, or dissected out without the animal betraying any consciousness of injury; and some go so far as to deny that it is a nerve at all. It was the opinion of Winslow that the sympathetic ganglia are reservoirs of nervous power;—of Johnstone, that they are the instruments by which the heart and intestines are endowed with involuntary agency; of Bichat, that they are so many centres of organic life, *centres particulieres de la vie organique*, independent both of the bone and spinal marrow. These are only a meagre specimen of the many contradictory conjectures which have been hazarded upon the nature of a system, a part of which only Wrisburg called the *cerebrum abdominale*; and as to its pathology nothing was precisely known until within the last few years, when a more philosophical mode of studying such matters elicited more light, and when the valuable works of Soemmering, Scarpa, Philip, Hastings, and Lobstein enabled us to speak with more satisfaction upon the natural and morbid influence of the ganglionic system.

In the present little volume Mr. Teale has done much to rescue these interesting portions of the nervous system out of their obscurity; to give a precise meaning to terms which were as extensively employed as they were utterly unintelligible; to trace many wandering and anomalous symptoms to their proper source; to ascertain the character of that morbid cause on whose existence they depend; and to prescribe the treatment which is best adapted for their removal. By an attentive investigation of his subject he has certainly settled one most practical question—that disease of the spinal cord and sympathetic ganglia is often less strikingly evinced by symptoms exhibited in its immediate neighborhood, than by such as may be discovered in distant parts; and by

linking the seat with the symptoms of disease, he has giving a clue to their treatment as well as to their etiology, which we have good reason to believe will frequently lead to their alleviation, when it fails to reach their cure.

**IRRITATION OF THE SPINAL MARROW.**—In vindication of his view that an irritable state of the spinal marrow frequently occasions neuralgic affections in distant parts, the author furnishes nothing which can be called incontrovertible evidence; but the presumption which he establishes in its favor must be considered strong, where it proves not satisfactory. The frequent coincidence of tenderness in the spinal column with these neuralgic symptoms, the relief or aggravation of these symptoms as this tenderness diminished or increased, the obvious influence which treatment directed to the spine exerted upon the immediate seat of neuralgic disease, and the well ascertained pathological fact that some of the most marked effects of disease of the brain and spinal cord are discoverable, neither in the substance or vicinity of the disease, but in organs at a distance from the seat of action;—these are the leading considerations whereon the author rests his views, and it must be admitted that they are more than plausible. Dissection would certainly give more direct proof, but in the present stage of this inquiry it is not forthcoming, and until more extensive opportunities for investigation shall furnish autopsic light, we can only weigh with caution the evidence we possess and square our inferences with the extent of our information. If a person complain of darting pains in the intercostal spaces between the fourth and seventh ribs of the right side, if these spaces be tender under pressure, and if the intercostal muscles occupying them be occasionally affected with spasm, if a dull sense of heat and uneasiness be felt in the third and fourth dorsal vertebræ, if the pains of the chest appear to shoot from and to these vertebræ, and if on examining the spine this portion of it alone betray decided tenderness on pressure; if cupping, leeching, and blistering this portion of the spine be followed with marked alleviation of every symptom, and if with the removal of the spinal tenderness every indication of thoracic disturbance disappear, it is as certain as circumstantial evidence can make it, that there is some etiological relation between the tenderness of the spine and the pain in the chest, and that although we may not have the sanction of actual sight to fix the nature of this relationship, there can be as little practical as pathological hazard, in concluding that the seat of disease is principally, if not exclusively confined to the spinal column.

The same evidence which lights us to this conclusion will aid us in discovering the nature of this disease. When the symptoms which attend it are compared with such as depend on acute inflammation of the spinal cord, they will be found to differ less in nature than degree. The introductory symptoms of both diseases are nearly, if not precisely the same, the sensibility of the skin is not destroyed, but impaired, the muscles are not palsied, but seized with feebleness and tremors. In the absence of better proof from the author, we refer to some of doctor Abercrombie's cases, as given in his valuable work upon diseases of the brain. In his CXIth, case the patient complained of pain in different portions of the spine stretching round the abdomen, a very uneasy sense of tightness across the lower part of the chest, spasm of the abdominal and dorsal muscles, coldness and numbness along the sides of the chest, abdomen, and down the lower extremities, diminished power of motion and occasional hiccup. These symptoms gradually increasing, the right arm became paralytic, his speech impaired, coma came on, and he died. Upon dissection the whole cord was found of a pale colour and in a state of complete ramollissement, a part of the medulla oblongata, cerebellum and brain was similarly diseased.

The tenderness of the spine at that part which the nervous symptoms would indicate as the seat of mischief, is strongly corroborative of its inflammatory nature, and the treatment, which is found to remove it with the greatest certainty, being purely antiphlogistic, inculcates the inference. As the inflammation is subacute and seated in organs of great delicacy, dissection itself might often fail to give much additional force to these circumstantial evidences; for as the author justly says—

“Although the parts after death may not exhibit any traces of inflammation, we are not warranted in concluding that they have not recently been the seat of disease. When the conjunctiva has been intensely injected from inflammation, or the skin the seat of redness from erysipelas, how slight are the traces of inflammation after death! And if the conjunctiva and the skin may be intensely red from acute inflammation, and yet exhibit scarcely any traces of disease after death, it is more than probable that the spinal marrow should be equally destitute of the marks of disease. Indeed, it would even be a subject for surprise if any permanent changes in this structure had been effected, since the diseases in question are presumed only to consist in the lighter shades of inflammation, seldom attaining those

violent degrees of intensity which are attended with obvious disorganization."

The symptoms produced will vary both in nature and extent with the portion of spine affected. If the upper cervical portion be diseased, neuralgia of the scalp is not uncommon, and the direction of the pain is generally determined by the position of the nerve. Sometimes the pain is dull, frequently it is acute, or it may occur in paroxysms. Occasionally some stiffness of the neck accompanies the other symptoms, the voice may lose its natural tones, or speaking may be attended with difficulty.

A healthy youth was attacked, (on the 10th of August 1829,) with giddiness and pain of the occiput, which frequently darted across the crown to the forehead. This pain, although generally dull, was often acute, and a feeling of weariness was complained of about the shoulders. These symptoms assumed the form of paroxysms, which were most frequent in the morning, and continued about two hours; they had been gradually increasing for several weeks, and they were accompanied with tenderness of the third and fourth cervical vertebræ. Leeches to be applied to the tender part of the spine. 14th. Pains return at the usual time, but in a very mitigated form, the vertigo is less, and the patient is much better in every respect; blister to the neck. 18th. Vertigo and pain quite gone, and no tenderness of the spine was elicited on pressure.

It may be thought that had the blisters and leeches been applied in this case to the head, the relief might have proved as sudden and effectual. The following case will be a sufficient reply to this suspicion.

Mrs. B. a week after her confinement, complained very much in the afternoon of a dull aching pain in the occiput, which extended along the parietal bones to the temples, and transversely towards the cheeks along the lower jaw. She also complained of a violent pulsation and distressing sound in the head, which she compared to the "beating of hammers." These symptoms had somewhat annoyed her previously to her confinement, and leeches had been applied to the temples but with the effect of aggravating them during the two following days. On examining the spine very great tenderness of the two upper cervical vertebræ was detected, a circumstance that had hitherto been overlooked, leeches were applied, immediate relief was procured, and the paroxysms never afterwards returned.

When the inferior cervical division of the spinal marrow is the part diseased, pains are felt in the arms, shoulders and breasts. Sometimes they follow the course of the anterior thoracic branches of the brachial plexus, occasionally they are fixed in the neighborhood of the shoulder joint, and again they shoot along the cutaneous nerves. The *mammæ* not unfrequently become acutely sensible, and, if the affection had continued long, feel knotty and irregular; pricking, numbness, and a sense of cold are often felt in the arms, the elbows are stiff, the muscles are affected with cramps and spasms, the wrists are weak, the hands tremble, and the fingers are almost insensible to such objects as they may contain. Females of retired and sedentary habits are obnoxious to these neuralgic symptoms in the upper extremities, and their modes of life have been generally considered a sufficient explanation.

Mrs. B. aged 53, mother of a large family, had been much addicted to rheumatism for the greater part of her life, and on the 10th of December, 1827, made considerable complaint of a fixed pain in the neck and between the shoulders, of darting pains over the occiput, of aching pains over the entire arms, of prickling sensations of the hand and numbness of the fingers. Abdominal muscles occasionally painful, lower extremities free, no fever, no cough, nor dyspnoea. Her disease, having been considered rheumatism, had been treated with the ordinary remedies but without much benefit, and finding that the two lower cervical and six superior vertebræ of the back betrayed tenderness when pressed, leeches were applied and a blister was ordered for the next evening. The irritation occasioned by the blister was very great, and while it continued the original symptoms were more severe; but as it subsided they gradually disappeared, and on the 29th of December she was not only free from pain, but felt a degree of muscular energy in her arms which she had not enjoyed for several years.

The sixth case will remind our readers of Sir A. Cooper's description of the "irritable breast," and we cannot impress the importance of such cases upon them more forcibly than by observing, that not a few have been doomed in consequence of similar symptoms to severe and fatal operations, and that many are permitted to wither under the blighting suspicion that they are the victims of some malignant malady, which can only be appeased with the sacrifice of life. An unmarried lady, aged 30, consulted the author on the 28th of August, 1828, for a painful affection of the right breast, which had annoyed her for several years, particularly at the menstrual period, but

which had increased within the last three or four weeks to a degree of alarming intensity. When examined it appeared enlarged and irregular, and the slightest touch produced acute suffering. "Sharp darting pains" often shot across the breast into the right arm, which was slightly tumefied and felt weak, a constant gnawing sensation in the shoulder, arm, and breast was complained of, and when the tips of the fingers were suddenly touched pain darted up the arm to the neck and head, and down to the breast. Pressure over the fourth cervical and three upper dorsal vertebræ gave great uneasiness. Excepting occasional dyspeptic fits and an habitual torpidity of bowels the general health was tolerably good; eight leeches to the tender vertebræ and a purgative of salts and senna. (12.) Bowels well opened, pain easier, blister spine. (30th.) Irritation of blister has occasioned some fever, and produced a bad night, pain unchanged; an effervescing draught every four hours. (Sept. 3d.) Irritation from blister subsided, breast less swollen and bears pressure without pain, arm can be moved with greater ease. (10th.) Pains have returned; blister spine. (17th.) Breast of natural size, pains quite gone, arm can be moved with considerable facility. (Aug. 26th, 1829.) Breast continues well, and, with the exception of an occasional feeling of numbness and weakness in the right arm, she is quite well.

If the upper part of the dorsal spine be affected symptoms similar to those now described are produced, together with a fixed pain in some part of the intercostal muscles, or pleurodynia; when the lower half is tender an oppressive sense of tightness across the epigastre, soreness along the costal cartilages, or in the course of the diaphragm, and pains in the abdominal and lumbar muscles are the most distinguished phenomena.

On the 1st of January, 1828, Mr. H. aged 40, who had been in an unhealthy state for several months, complained of a fixed pain in the intercostal spaces between the third and seventh ribs of the right side of the chest, which was increased by deep inspiration. Besides this fixed uneasiness there were acute pains which darted from the spine across the chest towards the shoulders, and sometimes to the scalp. These pains recurred at short intervals through the day, and were less frequent in the night, tongue furred, appetite defective, occasional flatulence, frequent dry cough, considerable emaciation. Bowels regular, pulse natural. Having suffered for ten years from pain in the side, he was considered to be laboring under phthisis; he had received much medical attention without improvement, and leeches and blisters had been applied in vain to the painful part. On

examining the spine the third and fourth dorsal vertebræ betrayed very considerable tokens of morbid sensibility, and when the attention of the patient was drawn to this circumstance it occurred to him, that this part had often been the seat of uneasiness and unusual heat, and that the "darting pain in the chest appeared to strike to and from that part." From the first to the 25th of January, dry cupping and leeching were twice employed, a blister was thrice and a sinapism once applied with decided relief; after the 25th a liniment containing oil of turpentine kept the integuments covering the tender vertebræ in a state of irritation, an effervescing draught was occasionally given to allay thirst, some rhubarb to keep the bowels open and sulphate of quinine to improve the appetite and restore strength; and upon the 20th of February he considered himself perfectly recovered. If the lumbar or sacral part of the spinal column be affected, the scrotum and neighboring parts often feel sore, the lower extremities are attacked with spasms, tremors and other morbid sensations, the knees totter and a sense of feebleness is complained of.

Mr. B. aged 20, complained of "pains across the body, weakness in the lower extremities, and soreness in the thighs" for the last three weeks. The abdominal pain is fixed, the soreness of the thighs descends along their interior over the knees to the broad surface of the tibiæ, his legs totter and he frequently feels a tendency to fall. Stomach in good health, and he seems free from any internal disease. In consequence of finding that the second and third lumbar vertebræ were tender ten leeches were applied, and a dose of oil was given. Five days afterwards the soreness and weakness of thighs and legs were removed, and the abdominal pain, which was much diminished, entirely disappeared on the application of a blister to the back.

An attentive perusal of the cases now extracted will enable the reader to form his own opinion as to the connexion between tenderness of the spine and such neuralgic symptoms. In some of them this connexion is obvious and easily traced by the character of the symptoms alone; in others it was strikingly presumptive from the nature and result of the treatment, and in all, when the symptoms and treatment are viewed together, there can be little room for doubting that some morbid action within the spinal column was the principal source of every symptom. Mr. Teale calls this morbid action "irritation," and refers to the spinal marrow as its seat; but irritation is a vague and unmeaning epithet, which is better adapted to conceal ignorance than

convey information, and the phenomena described in the above cases are indicative of inflammation. The acute and darting pains, the increase of heat, the occasional redness and even tumefaction, and alleviation of all these symptoms by leeching, cupping, blistering, and aperients, are strongly favorable to this opinion. In justice to the author, however, it must be noticed that while he has chosen to call this spinal disease *irritation* he affixes to the term, according to the French fashion, the idea of *subacute inflammation*; declining to use any stronger phrase until dissection had cast more light upon its pathology.

"This irritation, or subacute inflammatory state of the spinal marrow is not necessarily connected with any deformity of the spine, or disease in the vertebræ. It may co-exist with these as well as with any other diseases, but it so repeatedly occurs without them, that they cannot be regarded as dependent upon each other. Where, however, inflammation and ulceration of the vertebræ or inter-vertebral cartilages exist, it is probable they may predispose to, and, in some instances, act as an exciting cause of an inflammatory state of the nervous structures which they contain; for we not unfrequently find inflammatory affections of the vertebræ in conjunction with symptoms of irritation of the spinal marrow. But these two affections, although co-existing, bear no regular relation to each other; and during the progress of the vertebral disease, the affection of the nervous structures is subject to great changes and fluctuations. The local remedies employed for arresting the disease in the bones often alleviate the affection of the spinal marrow at the very commencement of the treatment long before the vertebral disease is suspended; but as the neighboring inflammation in the bones appears to predispose or excite the nervous mass which they contain, to disease, relapses of the nervous affections are repeatedly occurring during the whole course of the complaint.

"The affections of the spine, termed lateral curvature and excurvation, appear to have no necessary connexion with the disease which I have been describing; and the proportion of cases in which they are found united, is so small, that lateral curvature can scarcely be considered even as predisposing to this disease. The most extreme degrees of deformity frequently are observed without any affection of the nerves; and when lateral curvature does occasionally co-exist, local antiphlogistic treatment will often speedily remove the nervous symptoms, whilst the curvature remains unrelieved. Hence there is an impropriety in considering these nervous symptoms as a result of the deformity, and in explaining them upon the mechanical prin-



ciple of pressure and stretching, to which the nerves are supposed to be subjected as they issue from the intervertebral foramina. If the pressure and stretching produced by the curvature, were the cause of the nervous symptoms, they ought to continue as long as the deformity remains.

"Symptoms of affection of the brain frequently occur in conjunction with these diseases of the spinal marrow. These, however, must be regarded as the result of the extension of disease from one part to the other, most probably through the medium of the membranes. I shall however, purposely avoid touching upon these subjects, as it would be foreign to my present purpose to enter upon the discussion of cerebral neuralgiæ.

"*Treatment*.—When the different neuralgic symptoms which have been enumerated, can be traced to this morbid state of some portion of the spinal marrow, the treatment that ought to be pursued, is readily decided upon. Local depletion by leeches or cupping, and counter irritation by blisters to the effected portion of the spine, are the principal remedies. A great number of cases will frequently yield to the single application of any of these means. Some cases, which have even existed several months, I have seen perfectly relieved by the single application of a blister to the spine, although, the local pains have been ineffectually treated by a variety of remedies, for a great length of time. A repetition of the local depletion and blistering is, however, often necessary after the lapse of a few days, and sometimes is required at intervals for a considerable length of time. In a few very obstinate cases issues or setons have been thought necessary; and where the disease has been very unyielding, a mild mercurial course has appeared beneficial.

"It is of course necessary that proper attention be paid to the regular functions of the bowels, and to the treatment, by appropriate means, of any other affection which may co-exist. It is needless, in this form of disease, to offer any directions respecting diet, as the judgement of every medical man will enable him to decide best on the general management of the case immediately under his notice.

"When my attention was first directed to this subject, I considered recumbency a necessary part of the treatment; it is, for a moderate length of time, undoubtedly beneficial, and frequently very much accelerates recovery; but subsequent observation has convinced me that it is by no means essential. I have seen several instances of the most severe forms of these complaints, occurring in the poorer classes of society, where continued recumbency was impracticable, which have, nevertheless, yielded

without difficulty to the other means of the treatment, whilst the individuals were pursuing their laborious avocations.

"These observations, however, are not intended to apply to those cases in which there is actual disease of the vertebræ.

"When there exists a tendency to relapse, I have thought it advantageous to continue the use of some stimulating liniment to the spine for a few weeks after the other means of treatment have been discontinued. A liniment, consisting of one part of spirit of turpentine, and two of olive oil, is what has generally been employed.

**IRRITATION OF THE SYMPATHETIC GANGLIA.** In the diseases which have been described the source of mischief lay in the spinal cord, and the effects of this mischief were extended to distant organs through the interposition of the spinal nerves; but those upon which we are now entering, are said to originate in another source, and in place of arising from the spinal marrow are supposed to depend upon derangement of the ganglia of the sympathetic nerve. Upon first casting our eye upon the title page of this work, and seeing by it that the writer proposed to describe and treat diseases depending on the spinal marrow, and communicated by the cerebro-spinal nerves, apart from such as arose from the sympathetic ganglia, and were communicated by the nervous filaments derived from them, we admit that the proposal appeared to us little better than a vain refinement; but upon more mature deliberation we believe that the distinction herein established has a natural foundation.—While this is granted, however, it must be evident that any distinction based upon such a difference must be purely nosological, and that it can have no influence upon the selection, or employment of our remedial plan.

"As the disease may be confined to one part of the spinal marrow, or may exist simultaneously in different portions, or may even pervade its whole extent, so the affection of the ganglia may be confined to one of those nervous masses, may exist in several which are contiguous, or in ganglia remote from each other; and, as there is reason to believe, the whole chain may occasionally be affected.

"The disease of the ganglia is seldom found, except in conjunction with that of the corresponding portion of the spinal marrow, whereas the spinal marrow is often affected without the neighboring ganglia being under the influence of disease. Thus we frequently find symptoms of disease in a portion of the spinal marrow without any evidence of its existence in the corresponding ganglia, frequently the symptoms of both combined, and oc-

casionaly, but rarely, symptoms referrible to the ganglia, without the spinal marrow being implicated."

The principal symptoms of an irritated state of the sympathetic ganglia are palpitations of the heart, asthmatic breathing, spasm of the stomach, neuralgic pains of the thoracic and abdominal viscera, and diseased secretions of the stomach, liver, and kidneys. Leucorrhœa is often attendant on these affections, but whether it be a coincidence or consequence the author finds it difficult to explain. Pyrosis he considers a neuralgic disease, and he is inclined to suspect that some forms of diabetes may partake of the same character.

The facts and arguments which were formerly employed to show that the disease of the spinal cord, which gives rise to neuralgia, was inflammatory, we now refer to as illustrative of the same point in the cases of the sympathetic ganglia. Among two or three other cases Lobstein gives the history of a boy only ten years old, who died with some symptoms of anxiety, oppression in the chest, and rattling at the pit of the stomach, in consequence of a repelled eruption, and in whom the trunk of the sympathetic nerve, the ninth and tenth thoracic ganglia, and two of the anastomosing branches were found upon dissection, *profunde inflammata*. He has also seen the sympathetic destroyed, *per ulcera et cariem*, but does not give the symptoms which occurred during life, and hypochondria, hysteria, melancholia, colica pictonum, angina pectoris, febris intermittens are only a tythe of the diseases which he describes as depending upon its derangement. Any of the sympathetic ganglia may be affected, but the middle and lower thoracic ganglia are those which are most frequently disordered, and the ganglia of the neck are affected next in frequency. As the stomach is chiefly supplied by the former and the heart by the latter, these organs, it may be supposed, should be first affected; and hence do we find that the symptoms above enumerated are generally referrible to these viscera. So far, therefore, do the symptoms illustrate the parts affected; but the stomach is not exclusively supplied by the sympathetic filaments of the thoracic ganglia, nor is the nervous energy of the heart limited to those of the neck. These organs derive nervous power from the cerebro-spinal system by means of the pneumo-gastric nerve, and from the sympathetic system through filaments sent off from the ganglia, and the question naturally arises, may not both of these sources of nervous influence be tainted, and may not their taint conjointly produce that disordered state of the stomach, heart, and lungs which we have just described?

"The prosecution of this part of the subject will be best facilitated by investigating the following queries.

"1. Is the muscular action of the heart, arteries, stomach and intestines, dependent upon the cerebro-spinal, or upon the sympathetic system?

"2. Are painful affections of the heart, lungs, stomach, and intestines, seated in the filaments of the pneumo-gastric, or of the sympathetic nerves?

"3. Is the pneumo-gastric nerve the *only* nervous agent in digestion, or do the nerves of the sympathetic system exert any considerable influence in the digestive process?"

The first of these questions few enlightened physiologists of the present day can find much difficulty in solving. The well known and frequently recorded fact that full grown fetusses have been born without either brain or spinal marrow, and the experiments of Le Gallois,\* Clift, and W. Philip in which the whole spinal marrow and brain were destroyed without affecting in any very appreciable degree the action of the stomach and intestines, or even of the heart so long as respiration was continued, are quite conclusive as to the immediate independence, at least, of the muscular agency of the heart and stomach upon the cerebro-spinal system; and the objections which have been drawn against this view from the influence of mental emotion and from the changes wrought upon the pulse by the application of stimulant and sedatives to the brain and spinal marrow, must be regarded after the experiments above alluded to of very inferior weight.

But the two remaining queries are more difficult of solution, and very distinguished writers may be found the advocates of both sides. Desportes believed that painful affections in the heart and lungs depended on the pneumo-gastric nerve; Mr. Broughton asserted that this nerve was insensible, and Laennec imagined that the filaments of the sympathetic, as well as those of the pneumo-gastric, might be obnoxious to disease and might indiscriminately constitute the seat of pain. The portio dura of the seventh pair, the author observes, is very strikingly like the pneumo-gastric nerve in several important particulars.—They arise by a single set of fibrils from a distinct part of the spinal marrow, in contradistinction of the fifth pair and the spinal nerve which communicate sensibility; in many animals they are connected towards their origin; in birds they arise together, and in fishes the substitute for the portio dura is a branch of the eighth pair. These anatomical features of resemblance create a

\*[Le Gallois found in his experiments upon the spinal marrow, that its destruction destroyed the action of the heart. E.]

probability that the functions of these nerves are very much alike, and as the experiments of Mr. Bell have clearly ascertained that the portio dura may be touched, stimulated and even cut without pain, Mr. Teale presumes that the pneumo-gastric nerve is equally insensible, and, that, therefore, it cannot be the seat of pain. The following experiments of Mr. Broughton, upon the par vagum of a horse, abundantly confirm the justice of this presumption.

"The par vagum was exposed in the neck on one side, and insulated from its cellular connexions, but carefully retained in its place. It was repeatedly transfixed with a pin, pinched, and sloughly cut through with scissors, and not the slightest degree of sensation was manifested. When pulled out from its natural position, or squeezed by the forceps, the animal appeared to wheeze as in obstructed respiration, but exhibited nothing like the twitches and startings which peculiarly mark the production of pain in irritating sensible nerves."

The well known experiments of doctors Philip and Hastings have demonstrated the importance of the eighth pair of nerves in the function of digestion; but Le Gallois, from similar experiments, concluded that digestion is not invariably suspended by their division: Magendie and others have shown that, after these nerves are cut above the cardiac orifice of the stomach, digestion still proceeded, and it is not to be denied that many animals, which are destitute of the eighth pair, can digest the coarsest nutriment with perfect ease. These circumstances prove, that although the par vagum is materially concerned in the digestive function, yet digestion can proceed without them, and since the sympathetic is the only source of nervous supply this nerve must have some community of office with the eighth pair. Besides, it has been shown, while considering the first question, that the muscular action of the stomach is dependent upon the sympathetic, and if thus muscular action become deranged in consequence of disease in this nerve, the food cannot be removed by the action of the stomach as it is digested, and dyspeptic symptoms will result as certainly as if the gastric secretions had been disordered or deficient. It even appears probable to the author, that the secretions themselves become diseased when the sympathetic is affected, because in cases attended with tenderness of the spine in the neighborhood of the splanchnic ganglia, and in which there was no reason to suspect disease at the origin of the par vagum, he has seen large quantities of air and acid fluid secreted by the stomach; and in this view he is strongly supported by Lobstein.

"I will briefly recapitulate the inferences which appear deducible from the preceding observations.

"That painful affections of the nerves of the heart, lungs and stomach, are not seated in the filaments of the pneumo-gastric nerve, since this nerve is not a nerve of sensation, and, therefore, cannot be the seat of pain; consequently that they must be seated in the filaments of the sympathetic.

"That the action of the blood-vessels and muscular viscera is dependent upon the sympathetic, and consequently that irregularities in the action of these involuntary muscles may with much greater probability be referred to disease in the sympathetic than in the cerebro-spinal system.

"That as digestion has been observed to take place in some instances after the division of the eighth pair, and that it proceeds in animals which have not this nerve distributed to the stomach; it is evident that some other system of nerves (the sympathetic) exerts a considerable influence in digestion, and consequently that disease in the sympathetic may disorder or interrupt the digestive process.

I must now refer to the pathological principle with which I commenced; namely, that disease of the nervous masses is not so much evinced by symptoms in the immediate seat of disease, as by the phenomena exhibited in those remote parts to which the nerves arising from the diseased portion are distributed. Upon this principle those nervous diseases of the heart, lungs, and stomach, which have been shown to be more probably dependent upon the sympathetic than upon the cerebro-spinal system of nerves, *should not be regarded as diseases of the particular filaments distributed to these organs, but as diseases of the ganglia or masses from which the filaments are derived.*

"The probability that these diseases depend upon an affection of particular ganglia is still further corroborated by the fact, that tenderness may generally be detected in that part of the spine which is contiguous to the particular ganglia. Thus, when the heart is affected, there is tenderness in the cervical vertebræ; when the stomach is affected, the tenderness is seated in the middle or lower dorsal portion of the spine. The result of treatment directed to these parts may be still further adduced in corroboration."

**NEURALGIA OF THE HEART.** It not unfrequently occurs that the action of the heart betrays signs of irregularity which cannot be ascribed to structural disease. When excited by mental emotion, or stimulated by exercise, it palpitates with unusual frequency and force; when the causes of its disturbance have ceased to

operate, the irregularity continues unabated, and after variable intervals returns without any sufficiently obvious reason. Females seem to be more obnoxious to these "nervous palpitations" than males; as the complaint advances, the paroxysms become more frequent, are of longer duration, are induced by more trifling causes, and are separated by less distinct intermissions; and ultimately to speak or move, is quite sufficient to induce them. These palpitations are often accompanied by pains in the heart and lungs, not very unlike rheumatism, which are sometimes seated in the arch of the aorta, sometimes pursue the course of its large vessels; and when they attack the bronchial tubes, produce strong asthmatic symptoms. This state of the heart and lungs, the author believes to depend "generally, if not always," upon a morbid state of the cervical ganglia of the sympathetic; but as the spinal cord is rarely healthy when these ganglia are diseased, it is not unusual to find that these neuralgic symptoms of the heart and lungs are complicated with darting pains along the cutaneous nerves of the head and neck, fixed pains around the shoulders, pains, numbness, and tremors of the arms; and, what is somewhat singular, the left side is more frequently, as well as more violently affected than the right.

Palpitations, purely nervous, are principally distinguished from palpitations dependent upon organic disease of the heart, by the absence of other symptoms which denote a change of structure in that organ; in hypertrophy, the pulsations of the heart are more vehement and more uniform; in dilatation, they are felt over an unnatural extent of the chest; when there is obstruction to the circulation from contracted orifices, from loss of function in the valves, or from morbid alterations of the muscular structure, there are generally, in a greater or less degree, blueness, edema, &c. These symptoms, in general, are sufficient to distinguish the two affections: I will, however, add to them the stethoscopic distinctions enumerated by Laennec: 1. The heart is found to be of natural size; the sound, though clear, is not strongly heard over a great extent. 2. The shock, although apparently strong at first, has, in reality, but little impulse, for it does not sensibly elevate the head of the observer. The last sign he regards as most important, when, in addition to it, we consider the frequency of the pulsations, which is always greater than natural."

The two succeeding cases are good illustrations of this form of neuralgia. Mrs. H. aged 53, had been for many years subject to palpitations and dyspnoea, which were supposed to de-

pend upon the presence of water in the chest, which varied much in intensity at different periods, and became so severe in September, 1828, that they occurred repeatedly in the day, and during night not unfrequently awoke her. The action of the heart was very violent, the dyspnoea occasionally threatened suffocation, a wheezing sound was heard in the upper part of the chest, and when the hand was applied to it, a peculiar vibration could be perceived. Each paroxysm lasted about fifteen minutes, and in the interval the lungs and heart resumed their natural action. She was also annoyed with "fluttering" sensations in the arms, twitchings in the muscles, stiffness of neck, and a hoarse cough, unattended with expectoration. The third, fourth, and fifth cervical vertebræ were very, and a few of the superior dorsal were somewhat tender; in consequence of which, leeches were applied with immediate relief; and the next day, a blister produced still greater ease. On the 15th, the palpitations and twitchings became more severe; another blister was recommended; and by the 22d, she felt quite well. Her complaint again returned on the 20th of December, and was again removed by leeching and blistering; she continued well until May, when another slight attack called for the employment of the same remedies; and, up to the 29th of August, of the present year, she has not only remained free from every neuralgic symptom of consequence, but has gained flesh, and enjoyed good health.

Sarah B. aged 17, had been five months affected with pain in the region of the heart, and palpitations which occur in paroxysms, that are very violent during the day, and less severe at night. The pain over the heart occasionally extended to the region of the lungs; the arms and scalp were often attacked with darting pains; an oppressive tightness was felt across the sternum, and there was great tenderness of the five superior vertebræ of the neck. By employing the ordinary remedies—leeches and blisters—and using the saline mixture for slight febrile symptoms, the palpitations and pains gradually disappeared, and in little more than a fortnight she was perfectly restored to health.

Whether, and how far these symptomatic derangements of the heart predispose to organic disease, are questions of great interest; but the facts, which we yet possess upon these points, are so few, that it is impossible to enter into them with any prospect of a satisfactory result. When a muscle is forcibly and frequently exercised, an increased supply of blood and nervous energy is sent to it, that the demands made upon it in consequence of increased action may be fully satisfied. This extra-



supply is followed by extra-growth, this extra-growth gives rise to augmented energy; and in process of time both the form and function of the excited organ experience considerable change. In the brawny arms of the blacksmith, and in the muscular legs of the pedestrian, these remarks are strongly substantiated; and we are not aware of any principle in the animal economy, which prohibits our extension of this train of argument from external to internal organs. The heart is a muscle quite as much as the biceps, or gastrocnemius; and although it may not be as sensibly alive to mental stimuli as they are, it is subject like them to all the laws of muscular agency and organic life. Why, therefore, may not over-excitement, largely and long applied, modify the anatomy of this organ as well as that of any other muscle?—and why may not hypertrophy, or flaccidity of its walls, succeed to an increased, or diminished condition of its function, as a limb emaciates from disuse, or enlarges from exercise? Laennec admits the possibility of such consequences, while he has never met with any examples; and the author confesses himself unable to speak with decision either in favor or against it; so that at present the subject lies quite open to investigation, and we hope that its great interest will procure for it the attention it requires and deserves. There is no doubt, but that organic disease of the heart may exist in connexion with neuralgic symptoms dependent on either spinal, or ganglionic irritation, that they may mutually aggravate each other; and that treatment, exclusively limited to the removal of the nervous irritation, has been found materially to relieve the organic disease. Whether, therefore, it be true or otherwise, that what was mere neuralgia of the heart, may ultimately issue in structural alteration, it is in every instance of heart affection prudent, if not necessary, to attend to the condition of the spinal column.

“The treatment of nervous palpitations and neuralgic affections of the heart and lungs, has in general proved very unsatisfactory. The means employed as remedies, have been various in the extreme. These complaints have been treated by anodynes, antispasmodics, and tonics; by bleeding, digitalis, and prussic acid; by electricity, galvanism, and magnetism; and by irritants and depletory measures, applied to the *anterior* parts of the chest. These means have generally failed to give relief; and some of them have even aggravated the disease. Not unfrequently has it happened, that the unfortunate subject of nervous palpitations, after having tried in succession almost innumerable remedies, and having repeatedly changed his medical attendant, is obliged to endure with patience his distressing nervous companions, and

console himself with the assurance that his complaint is '*seldom attended with danger.*' I feel considerable confidence in stating, that when the disease is treated upon the principle which I have laid down, namely, of referring the palpitations and pains in the heart to disease of the cervical ganglia, the most beneficial results will, in the generality of cases, be obtained."

**NEURALGIA OF THE STOMACH.**—We believe it is now very generally admitted, that an irregular condition of the stomach, depending on chronic inflammation of its mucous coat, is a frequent source of dyspepsia, and its lengthened train of disastrous symptoms. This state may be relieved or removed by proper diet, occasional leeching, and gentle sedatives. Another form of dyspepsia results from direct debility of the digestive organs, as a consequence of previous disease; and may be beneficially treated with tonic medicines. But there is a third variety of gastric ailment, which neither leeching and abstinence on the one hand, nor tonics and nutriment on the other, can affect; yet the majority of its accompanying phenomena are so similar to those of the preceding cases, that they may be easily confounded. Its principal symptoms are impaired digestion, giving rise to acidity and distention; pain in the stomach, which may be confined to a small compass, or be diffused over the whole epigastric region; flatulency depending not on the decomposition of indigested aliment, but on the secretion of air by a disordered stomach; pyrosis, pulsation in the epigastre, a corded sensation around the waist, soreness along the edges of the ribs, pain in the intercostal and abdominal muscles, and other indications of disease in the spinal nerves. Indigestion and gastrodynia, the first two of the preceding symptoms, are common to gastritis and gastric neuralgia, and cannot be depended on; but the author thinks that the others are very diagnostic, more especially when attended, as they usually are, with tenderness of the spine. Flatulence from secretion, he believes to originate seldom in gastritis, in pyrosis never; and a sense of constriction around the waist, soreness of the ribs, and muscular pains, rarely accompany it; while they are seldom absent from ganglionic disease. *Præ aliis vero, says Lobstein, symptomatibus, eminet flatuum extricatio, seu pneumatosis, e nervorum actione perversa oriunda.* It must be remembered, however, that these points are not yet sufficiently well understood to admit of positive opinion; and it is certain, that if disease of the ganglia continue long, the mucous membrane of the stomach, exposed as it is to continued irritation, may fall into an inflamed state; and thus may appear such an intermixture of idiopathic and sympathetic disease, as shall require our treat-

ment to be divided between the epigastre and the spine. Had the following case fallen under the care of some of our London brethren, the class of medicines which would have been adopted, it is not difficult to conjecture.

A married lady, aged 23, (June 5th, 1828,) has been complaining for the last five weeks of a fixed pain in the left side of the abdomen, which is increased by pressure; an oppressive weight of the stomach after eating, constant weariness, extreme debility, a sense of constriction around the waist, which during night is distressingly severe; and an afflicting pulsation in the epigastre, which never ceases for a moment. All these symptoms are very much aggravated by taking food; and the stomach is so irritable after eating, that it regurgitates by mouthfuls what has been swallowed, until it again becomes empty. Slight flatulence and acidity are constant attendants on the digestive process. On examining the spine, the 7th, 8th, 9th, and 10th dorsal vertebræ, betray much tenderness; and some of those both below and above, are rather uneasy when pressed. Aching pains are also complained of in the legs; the skin covering the thighs is sore when rubbed, and prickling sensations are felt in the course of the saphena vein; blister to tender vertebræ; 10th, so much better, as to say that she is "not like the same being." Pain and oppression of epigastre gone, pulsation diminished, food not rejected; is free from flatulence and acidity; lower extremities unafflicted with either prickling or pain; but as the spine was still somewhat tender, a second blister was applied with the effect of banishing every morbid feeling.

An emaciated old woman, (June 11th, 1828,) has complained for several months of periodical pains across the epigastre, resembling cramp; a corded sensation round the waist, sudden and copious discharges of air from the stomach, sometimes continuing for an hour at once; and pyrosis in a severe degree. The 4th, 5th, 7th, and lower dorsal vertebræ, were very tender under pressure; but there was no affection of the extremities. A blister had been applied to the epigastre without relief: blister to the lower dorsal vertebræ. (19th.) Pyrosis and sense of stricture gone, flatulence much diminished, fifth dorsal vertebra still tender: six leeches to this vertebra. On the 24th, flatulence was trifling; and on the second of July, every symptom of disease was gone.

**ANGINA PECTORIS.**—There are few diseases of which we know so little with any certainty, as that to which Heberden gave the name of *Angina Pectoris*. The symptoms, by which it is described by various authors, are more remarkable for their

variety than any thing else ; the pathological products discovered after death, are not much more uniform than the symptoms; and its treatment has experienced as many vicissitudes as the theories, which have been fabricated to explain its origin. Dr. Heberden observes, that a disagreeable sensation in the breast comes on while walking, more especially after meals, and vanishes the moment that we cease to move. Dr. Walls describes it as a pain under the sternum, extending on each side across the breast, and affecting one or both arms where the pectoral muscle is inserted into the os humeri. Dr. Fothergill relates a case, in which the leading symptoms were a sense of tightness around the chest, in a line with the mammæ, and a pungent pain under the left breast, which extended to the elbow of the left arm. Dr. Butter considers that the paroxysms are marked by dyspnoea and flatulence, and that relief is often obtained by eructation. Dyspnoea is excluded from the catalogue of symptoms by Dr. Parry; and he relates a well marked case, in which there was neither pain in the arms, or chest. Dr. Blackall considers that palpitations are frequently characteristic of this disease, while Burns maintains that palpitations are incompatible with its existence. Parry describes it as depending on an ossified state of the coronary arteries. Desportes regards it as an affection which has its seat in the pneumo-gastric nerve, and Laennec believes it may originate in a diseased state of any of the nerves which supply the chest and neighboring parts. The author agrees with these last writers in maintaining that angina pectoris has its seat in the nervous system; but, in place of considering with them that the nervous filaments are the parts diseased, "dans les filets que le cœur recoit du grand sympathétique," he only regards them as the channel of intercourse, through which some disease in the spinal cord or sympathetic ganglia draws within its influence the functions of the heart. It is certain that symptoms of angina frequently occur and are removed, proving that there can be no serious disease in the structure of this organ; and how often have the coronary arteries been found ossified, where syncopical symptoms had been visible? Looking upon the nervous filaments themselves as the morbid agents, treatment has commenced too generally at the wrong end, and blisters, issues and such remedies have been crowded on the chest; but the author thinks it much more consistent with facts to refer all the symptoms of disease to the nervous masses from which these nerves arise, and to divert our remedial measures to the spine in preference to the chest. Tightness round the waist, oppression at the epigastre, and pains in the intercostal and abdominal muscles he

traces to the lower portion of the dorsal spine; flatulence and pyrosis to the lower thoracic ganglia of the sympathetic pairs; numbness in the neck and upper extremities to the cervical division of the spinal cord; palpitations and painful affections of the heart and lungs to the cervical ganglia

"I have been induced to refer the various groups of symptoms which have been described as angina pectoris, to an affection of some portion or portions of the spinal marrow, and of the corresponding ganglia of the sympathetic, by the following considerations.

"1. The fact, as I have before observed, that most of the morbid phenomena exhibited in the extreme filaments of nerves, are seldom owing to disease in the nerves themselves but to an affection of the nervous mass from which they are derived.

"2. The co-existence of pain on pressing some portion of the spine with the symptoms constituting angina pectoris; and the correspondence of the painful part of the spine with the particular symptoms which are present; namely, tenderness in the lower dorsal portion of the spine in conjunction with the stomach affection, constriction, &c. and tenderness in the cervical spine, with pains in the arms, breast, shoulders and palpitations.

"3. The relief obtained by local antiphlogistic measures to the spine; for instance, to the lower dorsal portion when the stomach is effected, and there is constriction, and to the cervical portion when there is an affection of the arms and palpitations."

Our limits allow us room for only one example and it is an important one, as showing how closely connected the ordinary symptoms of spinal irritation are with those ascribed to angina pectoris, and tending to the presumption that they not only all depend on one common cause, but that they may pass and re-pass into each other, as this cause is moderate or intense.

A lady, aged 56, applied to the author, (on the 18th of August, 1828,) in consequence of general muscular debility, palpitations, sense of epigastric tightness, and flatulency. Most of the cervical and some of the dorsal vertebræ being tender, leeches were first ordered and then afterwards a blister, which gave such relief that in a few days she acknowledged herself better than she had been for many months. But on the evening of the 25th she was suddenly seized with coldness, an inexpressible sense of suffocation, tightness and oppression of the chest, pain darting from the left arm into the elbow and down from the neck to left breast, with a frightful feeling of impending death. A discharge of air from the stomach gave some relief, and a sinapism to the spine, warmth to the extremities, and

internal stimuli soon restored her to a state of comparative ease. As the spine was again tender, and the symptoms at first complained of were again visible, blisters were recommended; but the patient, being obliged to return to her family, was removed from Mr. Teale's care, and the final result is unknown.

The diseases, which have now been described, appertain more especially to the heart, lungs and stomach; but the author believes the other organs are occasionally affected in a similar way and from the same cause. The small and large intestines, the kidneys, bladder and uterus are not unfrequently the seat of neuralgia depending on spinal disease, and remedial by means directed to the tender vertebræ. *Hodie certissime evictum est, says Lobstein, quod tot numerosæ sensationes quæ in epigastrio percipiuntur, neque ad musculos, neque ad vasa, neque ad organa gastrica sint referenda; sed magis ad plexum nervosum gangliosum trunco coeliaco insidentem.* Autenreith likewise observes, (in the first volume of the *Jübinger Blätter für naturwissenschaft und Artzneykunde*,) that in the bodies of those who have died of typhus, he has occasionally seen the abdominal nerves altered in appearance.

"It is of great importance to bear in mind the circumstance that these nervous affections sometimes accompany other diseases. When the vertebræ, or intervertebral cartilages are inflamed, the neighboring nervous tissues often participate, and neuralgic symptoms are the result. These nervous affections often constitute the most distressing part of the complaint, and, by proper attention to them the sufferings of the patient may, from time to time, be alleviated during the lingering progress of the vertebral disease. In fever, symptoms of a neuralgic character often make their appearance, and aggravate the sufferings of the patient. The following case lately occurred to me. A young lady having proceeded in a favorable manner for two or three weeks under common fever, became affected in the afternoon with paroxysms of oppression in respiration, attended with severe aching pain and constriction round the waist. These symptoms returned about the same hour for four or five days, gradually increasing in violence until they became truly alarming; tenderness was discovered in two or three of the dorsal vertebræ, and a few leeches applied to the painful part, prevented the recurrence of the attacks. The fever afterwards pursued the usual course, and ultimately terminated favorably. Neuralgic affections of the scalp, connected with tenderness in the cervical vertebræ, often occur in fever, and are sometimes mistaken for pain of the encephalon. In phthisis,

pains in the intercostal muscles, and oppression of respiration, are often of a neuralgic character, and readily admit of alleviation; the more formidable disease of the lungs, however, seems to predispose to their recurrence.

"Dr. Brown has observed neuralgic pains in the neck and scalp accompanying severe inflammatory affections of the fauces, and has also met with similar symptoms in conjunction with hepatitis. My own observation enables me to confirm these remarks of doctor Brown. The principal neuralgic symptoms which I have observed in conjunction with hepatitis, are constriction across the epigastrium and pain or tenderness along the cartilages of the ribs. This pain is sometimes supposed to be seated in the liver, when the right side is affected, but a precisely similar affection is as frequently met with on the left. I have known this neuralgic affection to be treated as hepatitis when there has not been any real evidence of the disease of the liver. A patient is now under my care, who is suffering from hepatitis, as denoted by yellowness of the skin, bilious urine, clay-colored feces, and deep-seated tenderness beneath the cartilages of the ribs; during the course of this complaint, he was for several mornings in succession attacked, about five o'clock, with pain and constriction across the epigastrium which he compared to cramp, flatulent distention of the stomach and intestines, pain across the lower ribs on each side, and on pressing these parts a degree of soreness was felt; the attacks continued from one to two hours, during which great restlessness was produced. Tenderness was detected in the vertebræ, and a blister has quite removed the paroxysms.

"These circumstances point out the important fact, that irritation of the capillary expansion of nerves may excite actual disease in the parts where the nerves originate."

With a few remarks upon the probable connexion between colica pictonum and nervous disease, and a cautionary admonition to the reader against supposing that he has been either advocating an impregnable theory, or a practice which must ever prove infallible, Mr. Teale concludes his little work, and if it were quite superfluous in us to repeat in plainer language than already has been used, the estimate which we have formed of its execution. Suffice it to remark that, although we do not look upon his plan of cure in neuralgic disease as proof against disappointment, we consider it one of the most promising which has ever been recommended; and, although we must as yet hold his views of this disease as theoretical, until dissection supply

the *experimentum crucis*, we are troubled with as few misgivings on the subject of its orthodoxy, as any can be, during the absence of the *chief witness*. Mr. Teale has done much in a little book to elucidate an obscure order of diseases, and we have no doubt but that his labours will receive that recompense which talent and industry deserve.

We believe with the reviewer of Mr. Teale's work on neuralgic diseases, that he "has done much in a little book to elucidate an obscure order of diseases, and we have no doubt that his labors will receive that recompense which talent and industry deserve." But we must express our misgivings of the success attending the practice recommended, and detailed, in any other than very slight affections.

We are sensible of the fact, that diseases of the spine have been much overlooked; but, so far as they have been noticed, we generally find them of a serious character, and, consequently, difficult of cure. When we look at the great importance of the spinal marrow, as the source from which many of the vital organs derive their nervous energies; and, at its peculiar delicacy of structure; its profundity of concealment, by which it is not easily accessible to our remediate agents, we cannot but express our surprise, our astonishment, at the success attending the practice of Mr. Teale, in cases of visceral neuralgia dependent upon irritation of the spinal column. We see cases apparently alarming, as well because the symptoms are violent, as because so important a structure as the spinal brain is involved, as the centre or source of the disease, and, yet, a blister, or a repetition, half a dozen leeches, or a repetition or two, removes as by enchantment, the diseased action, and health speedily succeeds!

We believe with the reviewer, that Mr. Teale, in the affections pointed out, and known by their association with tenderness of more or less of the vertebral bones, has proposed a practice "the most promising which has ever been offered." But we must insist, that, he has had singular good fortune in meeting with very slight, and easily remediable cases, or he never could have met the success which has attended his practice. Confirmed, or serious disease of every kind, does not so easily yield to treatment, in this country at least; and we doubt whether there may not have been some misapprehension on the part of our author. That such diseases exist, and with the obscure association noticed by Mr. Teale, we have no doubt; and that the profession have been in some degree remiss, in not looking more generally in obscure diseases of the viscera to the spine, would, also, seem to be a fair inference from the observations of our author. And, moreover, with a little qualification, we believe that he has suggested the most likely means. But let us not be led away with the idea of curing diseased action by a single blister, or a single leeching. Surely if these be the proper remedies, they will often be required to greater amount, and to be used for a greater length of time, to effect restoration. We think, the cases reported to have been so easily cured, are calculated to retard the employment of the means recommended by our author, since, notwithstanding his success, it will be found, that diseases rooted in the spinal brain, whether acute or chronic, are both serious and obstinate; and call for perseverance, and activity of treatment, proportioned to their violence; and wherever they are accompanied with general excitement, we must employ general depletion, in the general sense of the term.



**ART. VI.—Observations on the Use of the Pyroligneous Acid in the Treatment of Gangrene, Ulcers, and Fungus Hæmatoides, with an Account of some Cases in which it was successfully employed.** By THOMAS Y. SIMONS, M. D. President of the Medical Society of South Carolina, and Physician to the Alms-House Hospital, Charleston, &c. &c.

*Taken from the American Journal of the Medical Sciences for February, 1830.*

We have long considered it a desideratum, that some remedy might be discovered, which would more generally answer our purposes, in efforts at arresting the low and semiputrid tendency, which we occasionally meet with, in sores of various kinds—such as, the gangrenous or phagedenic ulcers, of aged, infirm, or intemperate people.

Many of these cases are not only extremely painful and liable to become dangerous, by terminating in mortification; but are extremely annoying to patients, and those around them, owing to their extremely fetid odour. Several articles have, from time to time, been recommended with a view of correcting the fetor, while, by such correction, we obviated much of the irritation or inflammation, kept up by the vitiated and acrimonious discharges. For this purpose practitioners have used lime water, ley, charcoal, soap, yeast, carrot and yeast poultice, &c. &c. To these several articles, doctor Physick, long since, added the use of blisters. Aware of the efficacy attending the employment of cantharides to parts in a state of gangrene, we have for several years used it extensively, in languid or ill-conditioned sores; and have been seldomer disappointed than with any other external application we have ever applied, for any purpose whatever.

Next to cantharides we have found the carrot and yeast poultice, the best corrector of the fetor of ill-conditioned ulcers, and very generally a very valuable application. But it must be familiar to all practitioners, that this last remedy, and all others, fail to answer our wishes; and however much may be expected from cantharides externally applied, under proper circumstances in gangrene, carbunculous inflammation, &c.; yet there are various lighter shades of these diseases, where it is necessary to employ remedies less severe than cantharides; and others again, where, however speedily the gangrene may be arrested yet, owing to frailty of habit, or some inscrutable cause, these sores become chronic, and will only yield to some efficient remedy long continued. We believe with doctor Simons, that there are many cases of sphacelus and phagedenic ulcers, in which the pyroligneous acid, will be found highly beneficial. Still, we would pointedly object to the employment of the acid in cases of actual sphacelation, until the mortification is arrested by cantharides. We recommend the cantharides from ample experience of many years, and can truly say, we have uniformly checked gangrene or mortification promptly, by the blistering ointment, applied liberally; and sometimes continued for several days. But after the mortification has completely ceased, we believe the pyroligneous acid to be one of the most effectual remedies within our knowledge; and in various ulcers, it is highly valuable.

Candor compels us to say, that our experience is but limited with this article, but we have for some years past used it occasionally, and sometimes with much advantage. We have seen a case of cancerous affection, which, from some cause unknown, took on a sphacelous condition, to a moderate

extent around, and in the bottom of the wound: the superficial affection was speedily checked by the cantharides plaster, but the bottom remained unclean; and, indeed, the mortification extended slowly. The acid was applied with about an equal quantity of water—the sore in two or three days was changed in its aspect, and fell back into its state of cancerous ulceration, by which the life of the patient was prolonged.

We have also used the pyroligneous acid, much diluted; say a drachm or two, in a two ounce vial, as a gargle in cases of chronic sore throat, with decided benefit. These were cases of chronic inflammation of the lining of the fauces, attended with a covering of a tough mucus over the surface, especially on the posterior part. It has often answered our expectations. In a word, our experience induces us to think the article entitled to particular notice, and we are, therefore, well pleased with the paper under notice.

**I**N a late number of the American Journal of the Medical Sciences, the conductors have done me the honor of taking notice of my successful use of the pyroligneous acid, in sphacelus, and phagedenic ulcers. As I regard this remedy of great value to the surgeon, and have since 1824 used it with uniform success and satisfaction, I am induced to make a few remarks on the manner of using it, and to relate three cases, which were considered so desperate as to leave little hope of recovery, in which it proved efficacious. I beg leave to premise that I never read or heard of the acid being used for any other purpose than as an antiseptic in preserving meat, antecedent to my employing it, and I was led to use it from the fact of my believing that if it was so powerful on dead matter, it would be much more efficient when it was aided by the vital principle. Although long convinced of its value, I could not induce medical gentlemen in general to try it, they believing other established antiseptic remedies equally salutary, if not superior, until the cases which I shall presently relate, were brought so strikingly to their view.

There are two kinds of pyroligneous acid found in the apothecary shops; one is transparent, and when agitated, shows small crystals floating in it; the other is dark and smoky; both have the empyreumatic odour. The former is the kind I use, and is by far the best.

When I first used this acid, I diluted it with six times its quantity of water; but since I have employed it diluted with equal parts of water, gradually diluting as the sore assumes a healthy appearance, until it becomes as weak as one-twenty-fourth. It should always create a smarting sensation. The manner of applying it is to put over the ulcer some lint, which is to be kept constantly wet, and changed two or three times during the day, according to circumstances. The ulcer ulti-

mately assumes red granulations resembling the inside of the pomegranate. If the acid be too strong, it will make it turn white, and assume the appearance of a slough.

*Case 1.* William Smith was brought into the Hospital, May 9th, suffering under mania a potu. After he was relieved of this disease, I observed on the anterior part of his right leg a dark spot occupying about two-thirds, where a blister had been applied, as he informed me, previous to his entering the Hospital. The commencement of mortification was evident, and I ordered him at first bark poultice, not having at that time the pyroligneous acid in the Hospital, and the following constitutional treatment:—B.. Sulph. quinine, iv. grains; aq. fontana, ℥viii; acid sulphuric, xx. gtts. Two table-spoonsful to be given every two hours during the day; at night he was given two grains of opium and five grains of camphor. He was allowed a pint of porter and a meat diet. This course was continued for two days, but without checking the gangrene; indeed it was so rapidly advancing, that several physicians were of opinion that immediate amputation would be necessary. Having, however, obtained the pyroligneous acid, I resolved to use it first; accordingly, I made free longitudinal and transverse incisions to the full depth of the gangrened portion, and then water and pyroligneous acid in equal portions were applied constantly in the manner already described, and the constitutional treatment was continued. In twenty-four hours a line of demarcation was formed, and in twenty-four hours more the gangrenous portion was separating from the healthy part. In seven days the whole of the gangrene was removed, and a healthy surface was presented. The acid giving pain was diluted to one-sixth, and ultimately to one-twelfth; and on the 26th September the patient was dismissed cured. The length of time of healing was produced, I think, from my omitting the acid after healthy granulations were formed, and using the adhesive straps.

*Case 2.* Edward Campbell, from St. John's, Berkely, South Carolina, came into the Hospital, on the 24th of August. He said that about Christmas he got a bruise on his shin which he neglected. It was afterwards quacked with by some old woman in the parish, until it assumed the character which I shall now describe. There was an extensive sloughing ulcer, deep, irregular, and jagged, extending from the lower portion of the tibia two-thirds upwards, exposing a part of the bone which was carious, and the tendon of the extensor longus digitorum pedis. The fœtor from the ulcer was so great as to induce me to re-

move the patient to a place separate from the other inmates of the Hospital. My patient was extremely emaciated and hectic, and I observed to the medical gentlemen and students who were present, that I had no hopes of saving the limb, but that it was desirable to place him under constitutional treatment, so that I might improve the conservative principle of the system, (to adopt Sir G. Blane's language,) previous to my amputating the leg, and that I would apply the strongest solution of the acid merely to correct the fetor. The treatment was—R. Sulph. quinine, vi. grains; acid sulph. xx. gtts.; aq. fontana, ℥viii. Two table-spoonsful every two hours during the day; at night two grains of opium to lessen irritation and procure sleep, which he had not enjoyed for some months. The diet was a pint of porter daily, and beef-steak. In two days the fetor of the ulcer was overcome. In ten days it was much improved, and I took away a large piece of bone which had exfoliated from the tibia. In four days more I removed with the knife a considerable slough of the tendon of the extensor longus digitorum pedis. From this time the ulcer began to improve rapidly, and healthy granulations appeared. This course was persevered in for some time with continued improvement of the leg, when my patient suffered it to be kept hanging down, causing the blood to determine and stagnate at the ulcer, when an extensive sloughing and gangrene commenced, (the acid having then been omitted,) which continued for three days, until the pure acid, (the brown and smoky one having been sent me by the apothecary, which proved inert,) was obtained, which checked its progress in twenty-four hours, and removed it altogether in a week. The patient was made to keep his leg elevated,\* and the acid was continued until Nov. 7th, at which time the leg was almost healed, and the acid is omitted.

Case 3. Charles Belton was brought into the Hospital on the 13th of September, suffering from the effects of intemperance. I observed a red suffusion over his left thumb with considerable tumefaction; he complained of its giving him great pain; I ordered a poultice of milk and bread. This was continued for three days, when the inflammation increased, became more painful and tumefied; a fluctuation was felt as if there was matter, and there appeared to be a disposition to point over the second articulation of the thumb. I made a free incision, when very little matter escaped, but a great quantity of blood. On

\* [Was it proper, or not proper, to "elevate" the leg in a case of reduced action? E.]

the next morning, I was informed that upwards of two pounds of blood had come from the wound, although I regarded this quantity as exaggerated. I found upon examination the wound had all the appearances of fungus hæmatodes. It spread out on each side of the incision like a mushroom, was fungous, very vascular, and oozing blood at every part. So formidable an appearance in so short a time left little hopes of relief but in removing the diseased part, which remedy is more than equivocal as regards success. It was, however, suggested to me by a medical friend, that as the pyroligneous acid had proved so valuable and efficacious in the other cases, whether it would not be worthy of a trial in a disease which has generally defied the power of remedial agents.\* I readily consented, but with no hopes of success. The acid was applied in its strongest form, which in two days checked the hemorrhagic tendency. In fifteen days the fungous character of the wound was subdued, when lunar caustic and adhesive straps were applied, which completed the cure on the 25th of October.

During the prevalence of yellow fever in Charleston, in 1824, I gave the acid much diluted internally during the black vomit stage, but with no benefit. I have no doubt it would prove salutary in putrid sore throats as a gargle, and it would be worthy of trial in cancer, in neither of which have I yet used it.

I have drawn up these cases and observations from a conscientious conviction that a proper use of the pyroligneous acid will be the cause of saving, to many human beings, limbs which otherwise would be cut off, and with the anxious hope that its use among surgeons may become general.

Charleston, S. C. Nov. 1829.

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ART. VII. *Remarks on Polypus Nasi.* By SAMUEL ANNAN, M. D. Extraordinary Member, and formerly President of the Royal Physical Society of Edinburgh: Professor of Anatomy and Physiology, in Washington Medical College, Baltimore.

IN looking over the Journals of our Profession, nothing has surprised me more, than the little attention bestowed upon Polypus Nasi. Scarcely a case is recorded: and, one might suppose from this, that it is an uncommon disease—or, that the

\* I am not aware that there is another case of cure of this dreadful malady on record.

treatment is so well understood, that additional information would be superfluous; neither of which, I apprehend, is correct.

Unless I am greatly mistaken, it is very prevalent; and cases of radical cure are exceedingly rare. Under my own limited observation, a number of instances have occurred; and most of them had been the subjects of repeated operations. One lady had been operated on twenty-four times; and the utmost she expected, was to have the disease kept under, so as to prevent disruption of the bones of the nose.

There certainly is no more loathsome nor horrible malady—particularly in its latter stages: not from any peculiar malignity, but from its power of indefinite increase—the difficulty of eradicating the entire tumour—and the faculty of reproduction from the smallest particle of remaining root.

John Bell, many years ago, gave a quietus to Mr. Pott's long dissertation on the distinctions between benign and malignant polypus; and surgeons at present, acknowledge no differences but those arising from a greater or less degree of consolidation of texture, or extent of attachment. They are all dangerous, simply from being situated in narrow passages contiguous to the brain: and, from their progressive augmentation of bulk, producing ulcerative absorption and displacement of the surrounding parts.

All that is known of the symptoms and causes of polypi, is stated with sufficient precision in the common elementary works. I shall, therefore, only speak of the treatment:

The softer kind of polypi, if discovered in the incipient state, we are informed, may be prevented from increasing to great magnitude, by the use of vinegar, brandy, a strong solution of alum, or a decoction of oak bark. A solution of Muriate of Ammonia, frequently injected into the nose, is said to have cured the disease. The only remedy entitled to confidence, is extirpation.

By looking into Dr. Good's elaborate and ill-concocted work, the reader will perceive, that he gives the treatment of polypus, just as it was left by Mr. Pott, half a century back. He disapproves of attempts at extirpation, unless in certain very favorable cases; and assigns as reasons for refusing, the very circumstances which it is supposed demand it imperatively.

Four modes of extirpation have been recommended, viz: caustics, excision, ligature, and extraction with forceps. The latter method, is almost exclusively employed in the present day; the ligature and the knife occasionally; caustics very sel-

dom, and only when the tumour is small, situated in the anterior part of the nose, and easily reached.

During the last winter, I was consulted by a gentleman who had been labouring under polypus two or three years, and had been operated on several times, with but partial relief. The anterior part of the nostril had been effectually cleared; but it was manifest, that the middle, or posterior part, was occupied by these tumours, inasmuch as he had gradually lost the power of breathing through that nostril.

I used the forceps once a week during six or eight weeks, and extracted a great many fragments, and some entire polypi—the largest not above the size of a chesnut, and with a peduncular attachment. Considerable inflammation supervened, which made the operations so painful, that but little could be accomplished at each sitting; and I did not think it necessary to hasten matters, so as to cause unnecessary suffering.

During the intervals, he was directed to use a powder composed of eight parts of the *Sanguinaria Canadensis*, and one part of Calomel; and to draw it as far back into the nostril as possible, in order to bring it into contact with the diseased surface. This powder was applied once a day. It caused violent irritation at each application, and increased the inflammation.

This plan was persevered in, till no more fragments of polypi could be extracted with the forceps, and till suppuration was clearly established; against which time, copious hæmorrhage was produced, by very slight touches with the forceps.

After the inflammation had risen to that height to produce suppuration, the remaining roots of the polypi appeared to slough out—considerable quantities of small fragments being discharged by blowing the nose.

As the inflammation increased, the use of the *Sanguinaria* became more painful; and when suppuration appeared, it was not employed so frequently. It was, however, continued at intervals of two or three, or more days, for several weeks.

The patient considers himself relieved from the disease. Time will show whether it has been completely eradicated.

The above I am disposed to consider the most simple and effectual plan of treating *Polypus Nasi*. Even where they are large, they can be torn away piecemeal; and the danger from hæmorrhage is ideal, inasmuch as the lacerated vessels will not bleed profusely, for the most part—and, if they should, any surgeon who is competent to the extirpation, can plug the posterior and anterior openings of the nostrils. The forceps may be

made long enough to reach the roots of those that pass backwards into the fauces; so that the ligature will very seldom be required.

Although the polypus may have "begun with considerable pain in the forehead and upper part of the nose, or may have been preceded by these symptoms; although it may be highly red or of a dark color; may never be alternately larger and smaller, but progressively increasing; may in coughing, smelling, or blowing the nose, give pain, or produce a very disagreeable sensation in the nostril and forehead; may be painful to the touch, or apt to bleed when slightly touched; may not be moveable by the action of blowing the nose; may be incompressibly hard, or exceedingly tough; may occupy a considerable space, and appear to consist of a thickening or an enlargement of the living membrane; may discharge an ulcerous, offensive, discolored fluid; and may not admit a probe to be passed around it to some height;" still as it is a species of the many footed monster who daily acquires strength and becomes more rapacious; and will be satisfied only with the life of the unfortunate person on whom he fixes his destructive fangs, the only possible chance of safety lies in assailing him boldly, tearing him from his attachments, and pursuing him incessantly, till his death is insured.

Mr. Pott informs us, that "the very large extent and quantity of adhesion will render extirpation impracticable, even if the disease could be comprehended within the forceps, which it very frequently cannot."

One would suppose from this view of the case, that only those polypi which can be embraced by the forceps, can be extracted; whereas the truth is, that the largest can be broken down and brought away in pieces. In cases where they are very large and long, and project backwards and downwards, behind and below the velum pendulum palati, so as to be distinctly visible through the mouth, and cannot easily be reached through the nose by the forceps, it would be advisable to try the ligature. These, we are told, may be extracted through the mouth with a pair of curved forceps; and for this purpose, some surgeons recommend the division of the soft palate. I would prefer the ligature to the forceps under these circumstances.

Mr. Pott also tells us, "that the malign nature of the disease may render all partial removal, all unsuccessful attacks on it, and indeed any degree of irritation, productive of the most disagreeable consequences." He says, he has seen hemorrhages which have been frightful, and inflammations which have proved fatal. He saw a case, wherein an untoward-looking poly-



pus, and which ought not to have been meddled with, was so attached to a distempered septum nasi, that it came away with it; he saw the same thing happen with regard to almost the whole of the ossa palati; and he more than once knew a polypose thickening of the membrane, covering the ossa spongiosa, and septum nasi, which in all probability, would have remained quiet a great length of time, so irritated by rough treatment and successful attempts, as to render the remainder of the patient's life truly miserable to himself, and offensive to others."

Now it is manifest, that all these direful consequences proceeded from allowing the disease to run on too long. While the surgeons were making up their minds, whether it was a case of benign or malignant polypus, the tumours were rapidly enlarging, and by pressure producing caries of the adjacent bones; so that against the patient got into the hands of a surgeon bold enough to attempt to save him, the circumstances were very unfavorable for an operation; the bones were rotten and some of them came away; and the caries had made such progress, that it never was entirely cured. But surely no surgeon will say that the patient's life was not prolonged; and there are few persons who would not willingly part with a bone or two of the interior of the nose, for a few years of life.

Polypi are not much in the habit of remaining quiet, as Mr. Pott expresses it; their general practice is to go on enlarging; but if there should be cases in which the tumour ceases growing when of no great size, and not likely to injure the nose, most patients I imagine would prefer the small inconvenience to the pain and risk of the operation, although not exceedingly great. The operation is performed when the polypi are small, not on account of the present suffering, but from an apprehension of what is to come, if the disease is allowed to proceed.

Fatal cases of inflammation must be very rare; and under very peculiar circumstances; as of a constitution greatly predisposed to inflammatory action. I have not seen nor heard of any.

In some instances, they have such a firm hold of the bone, and are so tough, that they cannot be torn away with the forceps; here the knife must be used, and caustic afterwards applied to the roots, as far back as they can be reached.

ART. VIII. *Cases of Hernia in which the Stricture remained at the mouth of the Sac, after they were returned, by the Taxis, into the Abdomen.* By doctor N. SNEAD, of Washington county, Virginia.

Taken from the Transylvania Journal of Medicine and the Associated Sciences.

WE not only agree with doctor Snead in the opinion, that the reporting of "unsuccessful cases" may be equally useful in some instances, as that of the "successful;" but we also feel disposed, at all times, to applaud a manly and fearless expose of the misfortunes attending our efforts in the practice of surgery. And we shall never forget the surprise which was felt, by the present writer, when he was told, that a certain member of the profession, then in this country, and of high standing in the profession, said he, (the present writer,) "was a fool to be publishing his unsuccessful cases." We fully agree with our author that hernia is a subject of the highest interest to the profession.

Due caution is at all times commendable in surgery, whether we apply the remark to the young and inexperienced, or to those more advanced in knowledge, who may have charge of a case so much out of the ordinary course of things, as not to have been noticed by reputable writers on surgery. But, nevertheless, we think, the remark of doctor Rush is no less applicable to surgery than to medicine, when he says, that it is no more necessary that the physician with correct principles, should have seen every disease in order to know how to treat it, than it would be for the mariner acquainted with nautical science, to have seen every port to enable him to sail to it. Applying this remark to the case before us, we would say, that the indications being clear, no precedent was required. Still we must make a distinction between what we may warrantably do, and that which it is our bounden duty to do. On the first point the moral question involved will be differently construed by different men; on the second point there can be no question.

In the first case for instance—if the question was put shall we open the abdomen because there are signs of strangulation, though there be no *positive* sign; and attempt to relieve by an unprecedented operation? Some will advocate, and others oppose such a measure; and in such a case, they may be equally conscientious in their conclusions. But for ourselves we should argue, that here, as in many other cases of difficulty, *necessitas non habet legem*—and that a surgeon if he be competent to the performance of an operation, and he believes there are circumstances present requiring it, may lawfully undertake it, provided there are good reasons for believing, that, if he be right at all, the operation must be performed *instante*, or the opportunity will be lost.

Our conclusion upon this point would be this—that doctor Snead would have been fully justifiable, at an early period of the disease, after the return of the intestine into the abdomen, to have operated; but not having any precedent before him, nor any positive signs of remaining strangulation, the obligation to operate was not imperative. We think, however, his cases show, that success was probably attainable, had there been an early effort made by operation.

It should be carefully remembered that, in this case, there had been a hernial protrusion; and that the strongest sign, (excepting only the absence of a tumor,) of strangulation continued. And, therefore, the sur-

geon had, not only reason to believe, from the circumstance of a hernia having just been replaced, that there might be a stricture at the neck of the sac, as is so frequently seen in the operation for hernia; but several cases are reported where portions of intestine, too small to be discovered, were lodged at the upper ring; and, indeed, opening the parts with the knife does not always disclose to the surgeon the true nature of the case. Such a case occurred some years since in this city. The strictured part was so small that it eluded the search of the operator after incision. The symptoms of strangulation continued, the patient died, some days afterwards: dissection disclosed a small part of an intestine strictured, and in a state of sphacelation.

This view of the subject would seem to raise the presumption, that our author was not without something like precedent. If, for instance, we know that a mass of strangulated parts may be returned; and that a small portion may remain, and not be sensible to the touch; and if we have just seen a hernia returned, and the symptoms still continue, these cases will justify the operation, by way of exploration as a *dernier resort*.

But although our author speaks conformably to all we have seen in our standard works upon surgery, when he complains of want of precedent, still, cases have been reported in some of our journals, where the abdomen has been opened, and patients saved, by relieving *intus-susception* of the bowels.

That such operations should not be undertaken without due precaution, will be seen in the fact, that a female patient was subjected to the operation of gastrotomy in this city, in a case of supposed strangulation, without external signs; or, perhaps, of suspected *intus-susception*. The husband of the woman told the present writer, that there was nothing like *introsusception*, or strangulation; but that the intestines were contracted, and as "red as a cherry." This patient died.

The second case of doctor Snead, fully justifies the views which we have offered, and shows that we should operate in cases where, after the reduction of hernia, the symptoms of strangulation still continue. And in this point of view, the paper before us is highly interesting, and no less instructive.

And in coming to this conclusion we do not wish to include cases of *introsusception*. We believe cases may, nay, have occurred, wherein we may open the abdomen for concealed strangulations, from invagination and operate with success. But such cases are referrible to a very different class of disease. In the case of doctor Snead, we have had the positive signs of hernia, and strangulation; but the first, that is the herniary tumor, is retired, while the latter or strangulation, continues—Have we not, then, a sufficient warranty for the operation. But in cases of invagination the signs of strangulation cannot be distinguished clearly, from those attending ileus; the indications should, therefore be strongly manifested before we attempt an operation. Indeed, we doubt whether any thing but the almost positive sign of *introsusception* will justify us in undertaking an operation—that is, a tumor suddenly formed in the abdomen, and so situated as to satisfy us pretty clearly, that it is connected with the intestines to which we must have the usual signs of ileus, or of *introsusception*.

**T**HERE is frequently as much achieved for the interests of Medical Science, by reporting unsuccessful cases, as those that terminate successfully. They serve as guides, in conducting the practitioner to fortunate results in his subsequent practice. Of all the morbid conditions to which the human system is lia-

ble, strangulated hernia is amongst the most important. The rapidity of its march to a fatal termination—the intolerable suffering of the patient—and the embarrassment experienced by the surgeon, in his efforts to succeed without an operation, combine in an eminent degree to proclaim it one of the most interesting diseases that falls within the province of surgery. Consequently, cases that present a striking aberration from those which are recognized by the greater number of physicians in practice, cannot fail to attract attention.

*Case 1st.* In the month of April, 1827, a negro man, the property of Mrs. Davis, whilst loading a wagon, forced a small hernial tumour into the right groin, which he with difficulty reduced himself, by assuming a recumbent position. This patient had a reducible hernia on the left side, for which he wore a truss; though it occasionally protruded, and gave him much pain and inconvenience, before he could succeed in its reduction. The case under consideration, on the right side, now presented itself for the first time. And, notwithstanding the hernial tumour had been returned into the cavity of the abdomen, symptoms of incarcerated bowel continued.

Dr. Hannum, of Abingdon, Virginia, was called in on the 4th day, the case still presenting the prominent characteristics of strangulated intestine, although not the slightest manifestation of a hernial tumour could be perceived. It was stated to Mrs. Davis, that the case afforded a strong presumption that the bowel was returned into the abdomen, in a state of strangulation; though as there was no tangible evidence of that fact, it was deemed most proper to rely on those remedies calculated to meet the prominent symptoms. Bloodletting, cathartics, blisters, and enemata, were resorted to, under the apprehension that it might be a case of constipation, associated with inflammation of the bowels. This course was prosecuted two or three days, without the slightest alleviation. I was requested to visit the patient on the 7th day of the disease, at which time he was labouring under all the constitutional symptoms of strangulated bowel, in addition to the supervention of peritoneal inflammation; frequent vomiting, a tense and exquisitely painful abdomen, obstinate constipation and hiccup, were the prominent features appertaining to the case. His pulse did not respond to the amount of disease presented, as it was very little altered from a natural state, either in point of force or frequency. We did not feel justifiable, from the obscurity of the case, to make an opening into the belly, at the internal abdominal ring, and search for the strictured bowel; as it was evident, that if an incarcera-

ted intestine did exist, and was released by an operation, it would avail the patient nothing at so advanced a stage. Moreover, we were in possession of neither precedent nor authority that sustained us in performing an operation, that had for its object the exploring of a part of the abdomen, in search of a strangulated bowel, the existence of which was rendered doubtful, from the analogy of the symptoms in the case to those of other intestinal affections.

The negro died three days afterwards. A post mortem examination exhibited the following appearances. The peritoneum presented the highest grade of inflammation; adhesions had taken place throughout the whole range of the bowels, from the secretion of coagulable lymph. At that part of the abdomen corresponding to the internal abdominal ring, there was a small hernial sac, entirely within the cavity of the belly, containing about an inch and a half of small intestine; adhesions had contracted between the mouth of the sac and the bowel; the intestine embraced by this small sac was mortified.

*Case 2d.* In March, 1828, Mr. M'Collough, aged 18 years, in making an effort to raise a heavy burden, protruded a hernial tumour through the inguinal canal into the groin. Dr. Hannum was called to this case, and succeeded in reducing the hernia by the taxis, without the aid of relaxing agents. But the reduction of the hernia afforded no relief to the patient, as manifestations of incarcerated bowel still continued. The doctor entertained an apprehension that his condition was perfectly analogous to that of Davis's negro: he, therefore, suggested the indispensable necessity of resorting to an operation, without delay. The patient and his relations hesitated; inasmuch as there were no apparent exhibitions of hernia. The former case was detailed in their presence, for the purpose of bringing about an acquiescence to the operation. The symptoms progressed; and I was requested to assist in performing the operation, on the third day of the disease; though, as I lived twenty miles from the residence of the patient, I could not arrive there until the morning of the fourth. The symptoms, then exhibited, were frequent vomiting, hiccup, tumid abdomen, unrelenting constipation, with pain and soreness in the region of the internal abdominal ring. The pulse was soft, full, and very little increased in frequency. It was stated to the friends of the patient, that the success of the operation had become doubtful from delay; nevertheless, as it offered the only resource, it ought to be performed. I ascertained from the young man's mother, that he had had a reducible

hernia on the same side when quite young, though he had been entirely free from it for many years.

The operation as for hernia, wherein the seat of stricture is at the internal abdominal ring, was first performed: then the cavity of the abdomen was opened, by cutting through the internal abdominal ring and peritoneum, in a direction to avoid the epigastric artery. Thus the sac was exposed, and the bowel relieved of the stricture constituted by peritoneum.

The neck of the sac had not contracted adhesions to the bowel, as in the case of Davis's negro—though it was somewhat thickened by inflammation. The bowel was removed from the abdomen for examination; there was about two inches and a half of small intestine that had been embraced by the hernial sac: it exhibited a very dark, red appearance, approaching to gangrene; its circumference, at that portion which had suffered the constriction, was greatly contracted. We met with some difficulty in deciding upon the propriety of returning the bowel into the abdomen, or leaving it in the wound; though as it was not absolutely gangrenous, it was returned. The sides of the wound were approximated by the interrupted suture and adhesive strips. In a short time the patient had copious and spontaneous evacuations from the bowels, attended by a relief of the vomiting, and other harrassing symptoms. The day after the operation, he and his friends anticipated a speedy recovery, as he was tranquil and free from pain. I need not detail the symptoms subsequent to the operation, as they were not remarkable. He died on the 4th day after the operation, no doubt, I presume, from mortified intestine, as that progressive sinking of the vital energies came on in a day or two, that is so peculiarly characteristic of gangrenous mischief, where it results to textures important to life.

These cases present a peculiarity in result, that has not come within the range of my professional inquiries. Professor Dudley states in his lectures, that in a large majority of the operations which he has performed in hernia, the stricture was formed by the mouth of the sac; and there is no difficulty in conceiving the practicability of returning a hernia into the abdomen, by the taxis, in this condition, exhibiting pathological results analogous to those which have been the subject of detail; although I have not seen any such communications. We see cases recorded in which symptoms of strangulated bowel were present, without any external appearances of a tumour; though upon dissection, the obscurity of the cases was removed, when a small hernia was found strictured by the inferior edge of the transversalis

muscle, at the internal abdominal ring, the bowel descending no further. In the cases of Davis's negro and McCollough, the hernia descended into the groin, and was returned entirely within the abdomen, the bowel still remaining incarcerated by the mouth of the sac.

In performing an operation for any species of strangulated hernia, I would invariably open the sac, and ascertain whether its neck formed the stricture or not. I should not think of adopting the plan, although recommended by distinguished authority, of returning the bowel, without opening or even exposing the sac. The hazard of returning the hernial sac into the abdomen, with the neck stricturing its contents, would be an insuperable objection to the prosecution of such a course of practice. The obstacle offered to the reduction of an inguinal hernia, may be constituted by the tendon of the external oblique muscle—but that circumstance affords no evidence that the neck of the sac does not maintain its contents in a state of strangulation. Though, if it were practicable to return the contents of the sac, without returning it at the same time, the practice of not opening the sac would be safe, provided we were certain that its contents had not sustained an irretrievable injury.

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ART. IX.—*Singular case of Hysteria.* By HORATIO G. JAMESON, M. D.

MRS. A. K.— was visited by me on the 6th of December, 1807. The following is copied from my note book for that year. "This patient is said to have been formerly of a fleshy and healthy make and constitution—appears to be of a fickle, loquacious disposition. A few weeks after her second child was born, she was attacked with an hysteric fit—these have frequently recurred with other hysterical symptoms intervening. She has now had her fourth child, and during her last pregnancy she was pretty well. But her husband has taken to excessive drunkenness and causes her to fret much, and to get into spells of great rage.

Second day after her accouchment the lochia ceased, and leucorrhœa succeeded—frequent hysteric fits came on with peculiar nervous irritations, which have reduced her to a deplorable state. About a week since, she had four fits in one day—from that time she has been confined to her bed. She keeps off the fits some-

times for a day or two, by drinking large quantities of tinct. assafoet. made of sp. vin.—nearly half a pint has been taken in one day; and two or three raw onions; and a handful of rue eaten on the same day, sometimes in the course of an hour—face bathed freely at same time with camphorated spirits, and some of it taken by the mouth. If she can procure these as soon as she perceives the spasm in her right arm, where it commenced, the fits could sometimes be prevented, by taking these articles rapidly. But generally the notice was too short.

The pain is confined to her right side—it commences in the region of the liver, and ascends to her breast, and sometimes to her throat, giving the sensation of a large ball. A spasm of the right side of the neck and face, followed by violent pain in the right side of her head—great general chilliness, with creeping sensations in her gums and tongue, which altogether interrupts speech. She is constantly under great anxiety and fear, which appears most remarkable just before each recurrence—great flow of urine during the spells. Mind always much disturbed, and does not recover itself for a considerable time after the fit.

Has been taking almost every kind of medicine, nostrums, &c. Blisters were lately applied without any visible benefit—warm herb teas have been used in great quantities.

Directed one grain of opium every night, and also, so soon as the spasms are perceived in the arm—and two and a half grains of calomel morning and evening, till it produces ptyalism. Also bitter infusion of columbo, gentian, &c. Use water biscuit but no fermented bread. Drink cold wine and water in ordinary; when the chill is on drink warm tea. Quit the use of the onions and assafoetida, by degrees.

Dec. 13th. Has been rather better during last week, till last night, when she had a very violent fit—it lasted nearly half the night. The evening of my first visit she had a fit remarkably violent—has had a severe chill nearly every day about 12 o'clock, noon. The calomel has affected her mouth slightly. Violent itching and creeping sensations in the skin all over the body. Creeping sensations, already noticed, continue in the lips, but not much felt in the tongue. Sweat more last week than formerly. Skin less pallid; thinks she has longer notice of the spasms. Talks more lively to day, and less about her fears. Pains shoot up her back, with twitchings of her eyes. Bowels formerly costive, now open. Less thirst, less urine voided. Has quit the onions, but continues the assafoetida largely; also, some rue—expect to prevent her taking these articles in such quantities, by inflaming her mouth with the mercury.



Directed to continue the bitters and calomel, till to-morrow evening; and, continue the opium as before directed. Begin the day after to-morrow with calcined magnesia, and take a tea-spoonful every morning and evening. This is intended as a corrective of the acid eructations which annoy her, and to prepare her for the use of the bark, for the purpose of checking the chills. Day after the free use of the magnesia, she is to take an ounce of bark in divided doses, before 12 o'clock; and the next day the same quantity, in the same manner. Day after the bark resume the use of the bitters, and quit the assafoet. as soon as possible—continue the same diet.

Patient not seen again till the 21st. Informed that the bark brought on high fever, with slight delirium—did not take it quite all. Has not had the convulsions since my last visit—she thinks she felt it slightly last night. Feels a wonderful creeping and twitching in her extremities—no further evident effect from the mercury—has had a chill every day about 10 o'clock. Has quit the onions and assafoet. entirely. Less pain in her side—less numbness in her arm—has been up to day—twitching of her eyes has ceased—pulse full and rather frequent. Continue the bitters with Lisbon wine; and pills of *rubigo ferri*. morning and evening—continue the anodyne, and take the magnesia occasionally.

January 3d, 1808. The medicines last mentioned were used, and she has been much better till a few days since, when the symptoms returned, and she is now as bad as ever. Her neighbors think her relapse has been occasioned by the misconduct of her husband. Left her pills of calomel; intending to salivate, and then use the bark copiously. After taking the pills a day or two, she was persuaded to go over the mountains to a water doctor.

May 9d. I was again sent for, and informed, that she had taken a great deal of medicine. She is now able to go about a little, but has a violent convulsion nearly every day. Has remaining of the quack's medicine some drops, principally volatile spirit; 30 drops of which were taken morning and evening. *Rad. valer. sylv.* and maidenhair for infusion; and rubs the arm with some kind of petroleum.

A few minutes after I went into her room, she began to belch up great mouthfuls of wind; and exclaimed, now its coming. She got upon the bed, and took a large draft of tinct. of assafoetida, of which she carries a half pint in her pocket. She went on to rift up wind, and drink the tincture; and also, to drink of camphorated spirits—and to wash her face with the latter—called

me to assist her—chewed rue in handfuls, as if with a voracious appetite. The breathing became laborious, great anxiety, and, indeed, feelings of horror were expressed by her actions. Being thus agitated for, perhaps, two or three minutes, she leaped from the bed, and made a signal for me to hold her head—after holding her for a few minutes, the convulsion which she so much dreaded, began, first in her head and neck; but soon became general, and very violent. She apparently attempted to hollow but could not—after being thus wrought some minutes, the convulsion ended in a complete and rigid spasm of the whole body. The head, and also the eyes, were drawn to the left side—the eye so much that no part of the cornea could be seen. Before the spasm ended, she began to froth at the mouth—all action seemed suspended, during nearly a minute, while a rigid spasm affected her whole frame—presently she drew a deep inspiration, and a convulsive expiration succeeded. She drew her breath several times in that manner—each expiration seemed as if it must tear her viscera to pieces—it was so forcible as to draw the muscles of the abdomen in a most frightful manner, and to force the froth from her mouth to a considerable distance. After laboring thus a while she opened her eyes, and looked much surprised—a cough came on which caused her to discharge great quantities of saliva. She now attempted to rise, and called for her husband—mistaking me for him she manifested libidinous desires—she was disposed to caress after so far recovered as to know me. Pulse full and frequent during the whole paroxysm, except the short interval of general spasm. For sometime past her appetite pretty good, bowels regular—much flatulence and eructations—mind much disturbed by her husband. Directed 2 grs. acetate of lead morning and evening; and if no pain in the bowels, from their use, after two days, take three a day. Take 50 drops tinct. opii. soon as the fit is felt approaching. Use cold infusion of camomile tea, toast and water, wine and water, for common drink—eat principally fresh meat or broth, puddings, eggs, cheese, with chocolate, or coffee, once a day.”

Here my notes of this case end. I heard from her from time to time; the patient being 10 miles from me. She continued pretty much in the same state for some considerable time, and I was informed some years afterwards, that she finally recovered.

**ART. X.—Remarkable case of *Pneumonia Biliosa*. By HORATIO G. JAMESON, D. M.**

**JOHN McDERMOTT** has been affected about 10 or 12 days with violent catarrhal symptoms, which he supposed to be the influenza. The last two days confined to bed—now high fever, severe cough, and the usual symptoms of a bilious remittent fever.

He was bled three times, took two purges—nitrous powders, and Hamilton's nitrous mixture, (which is a compound of vinegar, water, sugar candy, and sal. nitre.) The inflammatory symptoms seeming now to be removed, cinchona was given in powder in two drachm doses. It lay well on his stomach; but instead of subduing the disease, it brought on a violent return of fever, with much confusion of the head, threatening phrenitis. The patient was bled again—calomel was freely rubbed into his gums. The neck, throat, and feet, were rubbed with an ointment, made of mur. hvd. ℥ij. lard ℥ss.—it blistered his throat severely—common blisters were applied to his arms. Now, 28th of August, 1808, to take powders of calomel and columbo. They purged him, and the mercury affected his mouth a little—these remedies moderated his fever—he was better in all respects. Bark with cinnamon water was now given—anodynes have been given for some evenings past, and seem to have had a good effect soon after bleeding—but afterwards seemed to make him more watchful. The bark mixture just mentioned, seemed to increase his fever—considerable confusion of head—it seemed also to aggravate a retching which has troubled him for some days, and was supposed to proceed from the foul state of his mouth.

30th. Applied a blister to the head, having first bled him. 31st. Bled again; anodyne at night. Sept 1st. An injection for opening his bowels—bled twice. These remedies seemed again to lighten his complaint. Bark with crem. tartar was now given, 3d and 4th instant, with anodynes. On the fifth worse; refused to take the bark—gave cold infusion of snake root. On the 7th, cathartic, followed by the bark. 8th. The cathartic did not operate well yesterday---repeated; elixir vitriol, anodyne. 9th. Worse---gave castor oil---operated well, much better---gave tea-spoonful mustard seed every two hours---continue the vitriolic medicine. 11th and 12th, somewhat worse. 13th. Gave bark freely, worse---gave castor oil---operated well, but did not afford relief, was ill all day. Evening, much worse, quite out of his head, constant watching and tossing---skin warm and dry,

great horror and fear expressed. Eighty drops of laudanum were given, it had no effect; in an hour and a half, 40 more were given---this did not relieve---he continued to stare about all night, without closing his eyes. About 4 o'clock, morning of the 16th, I bled him about 10 ounces---this afforded considerable relief, and he slept a little, though yet confused in mind. Pulse feeble and fluttering; resembling the pulse of typhus fever; this induced me to suspect a concentration of morbid action on the brain---the effects of the laudanum show we had still undue excitement, and, therefore, I ventured to bleed this very feeble and emaciated patient; and believing there was occasion, even in this advanced state of the disease, for repetition, it was repeated, about 7 o'clock, fifteen hours after the first; and ten ounces taken; and immediately afterwards, I applied cold water to his head, by pouring on three or four bowls full. He became easy and slept some through the day. In the evening he was considerably worse, was altogether deranged in mind, and quite stiff in his limbs, scarcely able to speak---afraid of every person---refuses taking any thing. I bled him about two ounces which was of a fine florid red color, and when cool was sizzly. Cold water was again applied to the head--5 grs. calomel forenoon, 3 grs. afternoon. Rested well all night---sweat a good deal at bed time, which was the time of applying the cold water. (It is not stated in the notes whether the cold water was applied, but we presume it was not.)

16th. Quite easy and rational---pulse fuller than before the last bad spell---skin continues warm. His bowels opened by the calomel of yesterday. Directed five drops elixir vitriol every three hours. Has used very little wine in his drink.

From the history of this case, it is evident, that the bark and all stimulants did the patient harm. The loss of blood had a marked good effect. His appearance induced his visitors to view this as a case of nervous fever. It was no doubt at one time in the synchoid state of action, &c. yet, it required depletion throughout.

17th. Nine o'clock at night, quite easy, and has had a good appetite to day. The patient continued to mend slowly, but was affected with an obstinate purging and pain in his bowels, which increased till he had bloody stools---his sleep was much interrupted by the pain and trouble attending eight or nine passages every night---pulse feeble, but soft. Considering the present symptoms as arising from a concentration of the febrile action upon the bowels, I bled the patient about half a pint, in

his very reduced situation. It afforded immediate ease, and he recovered gradually afterwards.

In this case tinct. opium---opium in pills, and astringent medicines were given without any benefit; or rather they always did harm—it was the inefficiency of these in the diarrhea that induced me to venture upon bleeding him. It may not be unimportant to mention, that the day after the last bleeding, he declared he was not weakened by it, but, on the contrary, somewhat strengthened. It will be seen that the above case was remarkable for its protracted inflammatory nature, that I was then, as now, an advocate for sanguineous depletion, wherever clearly indicated by symptoms, without regard to the period of the disease.

## REVIEWS.

**A PRACTICE** of physic, comprising most of the diseases not treated of in "diseases of females" and "diseases of children."—By William P. Dewees, M. D. Adjunct Professor of Midwifery in the University of Pennsylvania; member of the American Philosophical Society; member of the Philadelphia Society, &c.

"We live in an age in which the fear of debility, causes a prodigal use of stimulants; and this too often, at the expense of the health, and the life of the patient." Broussais, Phleg. Chron. vol. 2. p. 82.

"Had I dared to bleed freely, and especially by means of leeches, the patient might have been saved; but I was afraid of debility. But who is to blame!"—ib. page 178.

IN TWO VOLUMES.

*Philadelphia, Carey & Lea, 1830.*

WE have long been of the opinion, that the custom of judging of medical opinions and practice by contrast is extremely pernicious. This remark applies with equal force to posthumous works, and to living practitioners; among the latter, it has been the chief cause of the wranglings and ill-will in our ranks; and has given rise to the opprobrium, of our profession, that, "doctors will disagree." This custom is ascribable to different motives—to jealousy, interest, pride, &c.; and, sometimes to an honest difference of opinion.—They are all equally pernicious to the cause of medical science, and, therefore, we should in all cases reprehend the former, and carefully endeavour to restrain the latter, or extend liberality to opponents.

We have been led to these reflections at this time, by reading a notice of the work under review, in the American Journal of the Medical Sciences—we there find the works of Cullen, Thomas, Gregory, and Good, contrasted with the work of doctor Dewees. The announcer of this new book seems disposed to ascribe some merit to the works just named, except that of doctor Thomas; but has made the following sweeping assertion. "That these are fallacious, and often dangerous guides." That this misfortune may occasionally attend efforts in the application of rules laid down by these writers, we readily admit; but, is it within the pale of possibility, to avoid the misapplication of remedies at all times, under the influence of any doctrines, that have been published?

That the work before us will be useful we have no doubt, but if we are to understand by the remarks of the *announcer*, that it is to supercede those named, we would raise a warning voice against such a thought. All the works named are not only worthy examination, but should be carefully studied by every student of medicine.

In a word, we feel hostile to the illiberal custom, of judging works by *contrast*—we believe such a practice to be the bane of our science, and the destroyer of peace in our ranks—and surely the most enthusiastic admirer of the new practice of physic, comprised in two small volumes, will not advocate the opinion of its containing all that is to be known; or that in it, and it alone, is to be found the *true light*. Surely the announcer will not insist upon founding his praise of the *new practice*, upon the *dispraise* of other works. For ourselves we are determined to examine and estimate the work upon its own merits, candidly acknowledging before we proceed further, that, as far as truth and candor will justify, we have a preference for American productions. Not because they are our own, but because they are most likely to be suited to our wants.

We are not a little surprised upon looking into the *practice of medicine*, to find the following quotation from Broussais. "We live in an age in which the fear of debility, causes a prodigal use of stimulants; and this too often, at the expense of the health and life of the patient." If this be true in France, then has Broussais acknowledged, that he, and his countrymen, were almost an age behind the American school of physicians; and we must say, that if our author offers this assertion of Broussais, as applicable to the profession of this country, he is doing them great injustice.

The title page of the new work has another quotation from Broussais, still more extraordinary than the one just noticed—he says, "had I dared to bleed freely, and especially by leeches the patient might have been saved; but I was afraid of debility.—But who is to blame!" Had M. Broussais attended the lectures of doctor Rush, upwards of thirty years ago, he would have been divested of his fears of *debility*, and might have "saved" his patients by the free and rational practice, so ably taught in the Philadelphia school by Benjamin Rush; and had he passed through the United States, and observed first the practice of Rush and Physick, and from these down to the very tyro in the profession, he would have been relieved of his anxiety, about the "prodigal use of stimulants." Nay, had M. Broussais been willing to adopt the

principles and practice of Rush, he would have been led to "bleed freely," and patients would have been "saved," and no one would have been blamed!

If any man can duly examine the works of doctor Rush, and then observe the prevailing practice of our country, and afterwards quote Broussais, as the discoverer of a new method of practice, the merits of which rest upon free depletion, we must say, that he has not discovered a truth, which is familiarly known to thousands of our physicians; nay, to most of our intelligent citizens, to wit, that free depletion has been the order of the day in this country for many years past!

But depletion to be *especially useful* must be effected by "leeches," says M. Broussais. Had he not put into his account the *leeching* there would have been nothing to claim, for it has very long since been known in France, and, indeed all over Europe, that doctor Rush inculcated free depletion. Was he not long since the Sangrado of a Cobbet, &c. Broussais is entitled to credit for having here discerned the efficacy of Rush's practice; or of being fortunate in adopting one nearly similar, and boldly pursuing it, while his countrymen were followers of the beaten tract of Pinel, or of Brown. We expect, however, to show, as we proceed, that as a general rule of practice, the leeching is far inferior to that by the lancet, whether we apply the remark to the efficacy of the practice, or convenience of the patient. We mean, however, to confine our remarks to diseases of our own country, and shall willingly extend to M. Broussais all the merit which may be attached to him, for the correction of the practice of his countrymen—we presume it is to them more especially, that he applies his remarks. Common observation, and daily occurrences, disprove his assertion if applied to the prevailing principles and practice in America.

The following opinion has been given by our author, in his general observations—"The great light which the French pathologists have shed upon the nature of fever, has enabled us in a very remarkable manner, to curtail its course and to lessen its danger."

We shall not stop at this time to express in detail our decided dissent from the doctrines of Broussais, when applied to febrile diseases of this country—let it suffice to say, that we anticipate very serious evils from the dissemination of such doctrines; but, we feel a confident hope, that the principles so extensively diffused among the profession of this country, by doctor Rush, will long continue to keep them from uncertain and dangerous innovation.



We are told that "the variety of fevers formerly made by some nosologists, is now very much diminished; and the mode of treatment, founded upon examinations after death, has been very much simplified."

It is our pride to know, that with very few exceptions, such systems of nosology have had no influence whatever, over the practice of physic in this country, for a long course of years. To whom are we to look for this salutary improvement in our principles and our practice? We once personally knew a teacher of medicine in Philadelphia, his name, if we mistake not, was Benjamin Rush! And the day was, when we and hundreds, nay, thousands with us, believed him to be an oracle, from which a flood of intellectual light poured forth, for a long course of years. And we still believe, that to him are we indebted for the soundest philosophy that adorns our science, and a no less valuable application of principle to practice—and that we are not more indebted for the dissemination of sound philosophy, than for the unrivalled eloquence with which he inculcated his sentiments, and captivated the hundreds, and the thousands, who heard his lectures, to say nothing of the very extensive influence of his writings. By him has the profession in America, been modded on a plan too rational, and full of truth, to admit of correction by any thing yet offered in France or elsewhere.

We must say *en passant* that the author of the new "practice of physic" does great injustice to the writings of doctor Rush, in ascribing so much to M. Broussais. The paragraph which speaks of nosology, and its injurious influences must be understood to have a bearing upon the profession, as though this was one of their crying sins! We appeal to every intelligent physician, whether our country is not filled with men, who need not be told of the frailty of systems of nosology; and who have long since imbibed a more correct philosophy, from the lips, and writings of doctor Rush. We dare not overlook the fact of our author having overlooked the important labours of the American father of physic.

Doctor Dewees after enumerating the absurdities of nosology, long since discarded by doctor Rush, because founded in error, and highly pernicious in its tendencies, goes on to tell us, that notwithstanding the many supposed varieties of fevers, amounting to hundreds; "in all, the state of the stomach was most probably positively the same; differing only in degree, or in the activity of the inflammation." Has this not been the opinion of hundreds and thousands of our physicians, whose "ideas were taught how to shoot" by doctor Rush.

"If this be true, (that there be so much simplicity in disease, says our author,) and we think it cannot well be disputed, is it not worse than idle, to make distinctions, where there are no important or essential differences? Or institute a variety of treatment where one plan, if the right one, and properly pursued, is every way sufficient for the end proposed?"

We answer, doctor Rush did, for a long course of years, teach this important truth, in all its details; and with the most ample illustration. And, we aver that as far as a faithful observance of epidemic diseases, in a practice of thirty years, has enabled us to judge, Rush, *was, is, and*, in all probability, *will be right*, in this great fundamental truth, whatever fate may attend his "unity of disease." We are however, only at the threshold of our subject—we shall endeavor to support and establish our assertions as we proceed.

The French pathologists, says our author, "have enabled us in a very remarkable manner to curtail its, (fever,) course, and to lessen its dangers." How are we to arrive at this conclusion? the Broussaian theory and practice is by no means extended through our country—so far as we have yet learnt, it is pretty much confined to Philadelphia. Is there any material difference in the result of fever cases from what it has been, since the triumph of the principles of doctor Rush in 1793? For ourselves we much doubt it, and if it be proved to be the fact, then the profession have not been true to the theory and practice of the American luminary, since he, and doctor Physick, long ago, pointed out the tendencies which exist in fevers to beget congestions, and that to avoid this, we must destroy the disease in embryo, or as they have it, in its forming state.

In our opinion this one grand point in pathology, is very far superior to all that has ever been obtained by post-obituary examinations. The one aims at, and very often nips the disease, as it were, in the bud, the other, with more scholastic parade, suffers the flower to bloom, that he may exclaim, behold the very identical production, which I predicted as the result of a certain seed. In short, doctor Rush, from his post-mortem appearances, and the symptoms; and the result of his practice, founded on these, says, there is a forming period; and he believed with Sydenham, that disease has its rise, its acme, and its declination; that, in proportion as we shall be fortunate in attacking it in its forming or rising state, more or less early, so will be our chances of speedily overthrowing the enemy. M. Broussais seeing a phlogosed state of the stomach, in many cases of dissection after fever, says this was the proximate cause of the fever—which is saying, in other words, that structural dis-

case of the stomach, is the cause of fever: what then is the cause of the structural derangement? This in our opinion, is mistaking a thing for its antecedent, but we shall be better enabled to discuss this point, after we shall have more fully examined the observations of our author, upon the Broussaian doctrines and practice.

"It appears to be at this time settled, at least as far as unanimity can prevail upon a subject not susceptible of absolute or rigid demonstration, that, in all the supposed varieties of fevers as recognized by some writers, (but which by very many of the best informed of the present day are looked upon as almost gratuitous,) the lining membrane of the stomach is constantly found after death to be in a state of inflammation, (more or less;) and that all the constitutional symptoms, or the phenomena of fever, depend upon the altered condition of this organ; and consequently, that all the remedial means are such, and such only, as are calculated to diminish, or remove it. And farther, that every thing which has not this tendency, is not only useless, but is injurious."

Our acquaintance with the profession in this country, which is pretty extensive, has so far, led us to a very different opinion of the subject of the Broussaian doctrine of fever. It is our opinion, that very few physicians in this widely extended country, have as yet, either adopted, or seen any necessity for adopting, the French pathological views in fevers. That the reverse of this may be true in Philadelphia we will not presume to doubt. We have already shown, that the jargon about nosological arrangements of febrile diseases, has long since been discarded by the mass of the profession.

We admit the fact of there being a predominating tendency in certain fevers to irritation or inflammation of the stomach—this is a truth with which we have been familiar in this country long since, as may be seen by the writings of doctor Rush, and several respectable papers upon epidemic fevers, which prevailed in this country, about the beginning of the present century, and to be seen in the New York Medical Repository of all which, we shall take notice in proper place. For ourselves, while we acknowledge such a tendency, with many exceptions, to be hereafter noticed, we look upon these post-mortem appearances as the *consequence*, and *not the cause* of fever. For the present, we rest this opinion on the circumstance of all analogy being in our favor—thus, our author, we shall find, admits that the brain, liver, lungs, &c. may become involved in fever, as a consequence of general fever—where the consistency then of looking upon inflammation, seen sometimes in these important organs, as the result of fever; and view a similar state of

the stomach, not as the effect, but the cause of fever, merely because the latter is more frequent than the former. How any one can reconcile himself to notions so variant, and so contrary to all analogical reasoning, is to us inconceivably strange.

Such being our opinion, it will follow, that we cannot subscribe to the declaration, "that all the remedial means are such, and such only, as are calculated to diminish or remove" this bugbear, inflammation of the stomach. We say, on the contrary, that all local inflammations are the effects of general idiopathic fevers, as well that of the stomach as of other important organs, and therefore, instead of "removing" this, as alleged by M. Broussais, our leading aim should be to prevent it, as recommended by doctor Rush. What is it but congestion? and how are we to prevent its occurrence, but by timely depletion, both by the lancet, and by purgatives, with the qualifications to be hereafter noticed. Will inflammation excited by ordinary irritants produce remittent or intermittent endemic fevers? We answer they will not. Simply then to employ remedies, with a view exclusively to remove inflammation of the stomach is to do nothing. We find derangement of the secretory apparatus, to more or less extent; and if you do not correct this, it is in vain that you endeavor to remove the inflammation.

We are much pleased with the candid acknowledgment of our author, "that the celebrated author, of the doctrine just glanced at, pushes his practical precepts beyond, what we at this moment believe, is warranted by general experience." Doctor Dewees goes on to say, that "exclusively" to attend to "the reduction of the inflammation of the stomach by leeches and starvation," will not do, because he, (Broussais,) loses sight of the necessity for the removal of extraneous substances! That by such omission, the ingesta become irritants. But, we think sufficient force has not been given to this most momentous circumstance, in the treatment of most diseases, since if this *objection*, of neglecting the removal of the sordes of the alimentary tube, be added to the equally common and perhaps still more important circumstance which we have just noticed, that is the correction of deranged secretion, in all the chylopoietic viscera, we shall have, all the supposed importance of the pathological speculations about gastro-enteritis passing away to a mere symptom—a symptom, we readily admit, of the first importance.

Our author tells us, that much mischief is done, by the employment of means altogether disproportioned to the mere removal of foreign substances from the alimentary canal, and the

stomach itself. Whatever may be the views of Broussais, or his proselytes, on this point, so far as our acquaintance extends, with very few exceptions, purgatives and emetics, are given with an intention of depleting by them, while we thereby change the secretions, and as we hope hereafter to prove, with the intention (which is often successful,) to prevent the congested state of the stomach, which is so apt to follow the abuse of stimulants, or the omission of prompt and efficient evacuations of the *primæ viæ*.

We are reminded here of an opinion which we published in 1818, when treating on bilious fever: "I have long since remarked that very little dependence can be put on any cooling medicine, that does not actually purge. Glysters are always useful"—"We must touch stimulants or tonics with great caution, and, indeed, they are very seldom necessary." It will be seen we were not, (many years ago,) of the *Broussaian age*, as we were very far from being "prodigal in the use of stimulants."

Doctor Dewees believes "that the prevalent idea upon the subject of clearing the first passages in fever is, that it requires remedies, active in proportion to the violence of the *constitutional symptoms*." This has never been a governing rule with us, nor do we believe it by any means common in this country; certainly it is no where within our recollection so represented in the writings of doctor Rush. On the contrary, we have always thought, and, indeed, the fact was known to Sydenham, that, in general, sporadic cases, and indeed, cases of epidemic diseases, before the peculiar character is known, are always to be treated with a degree of caution, which may not be necessary under other circumstances. And, although we were taught by the American luminary in medicine, that we should proportion, and otherwise adapt our remedies as far as possible to the force of the disease, yet it is clearly evident, that this is nothing more than what Broussais, and every other enlightened practitioner will admit, that severe diseases require severe remedies. To the best of our knowledge and belief, the more intelligent part of the profession do not aim as a general thing, at purging or evacuating the intestinal tube in proportion to the violence of "*constitutional symptoms*"—where they do meet violent disease with active evacuants it is owing to peculiar morbid derangement of some one or more of the important viscera—constitutional symptoms they subdue with the lancet.

Our author says, it is a common opinion, but one which he disapproves, that in clearing the first passages in fever, reme-

dies are required active in proportion to the violence of the constitutional symptoms; "the very reverse of which, is the fact." Does this accord with common observation, with sound common sense, apart from theory, that a disease so multiform, as is to be seen in the whole range of fevers, calls for a simplicity and mildness of treatment in proportion as it is more violent. Admit for argument sake, the Broussaian doctrine, that gastro-enteritis or ventricular inflammation is the cause of fever, and, will it not then appear reasonable, that as the fever is more or less violent, so must the cause of it be in proportional strength; for, on this simple view of disease, we may fairly insist, that as fever is the mere effect of an antecedent, that they must be in relative proportion. Then to remove the more violent gastric affections, it is only necessary to apply a few more leeches, admirable simplicity! would to God our diseases were so simple! But as the sentence stands, we have a right to say, that, as it is wrong to use active remedies in violent diseases, it follows that, our author, virtually advises a mild or feeble practice, in proportion as the disease, to be treated, is more violent. Upon this we will, however not insist, as in other parts of the new practice of medicine a very different theory and practice are given.

"For it must be evident, (says our author,) that if the cause of fever consist in an inflammation of the mucous coat of the stomach, it is every way certain that violent emetics, or very active purgatives will not have a tendency to remove this cause," however sure they may be of removing impurities, &c.

When we come to notice the articles, remitting and intermitting fevers, we shall offer our views in detail. At present, we will merely remark, that the phenomena attendant upon fever, in all its forms, states, &c. are so remarkably opposed to the opinion of this *simple* doctrine, that, to our apprehension, the doctrine here presented, is not, cannot be true: and, therefore, it must be pernicious. And, if it were true, it by no means follows that we would so uniformly, if ever, do mischief by the administration of purgatives—provided only, that we use them with sound discretion; a part of which discretion is, to use them in the forming state of fever, in preference—at which time, they will generally prevent the occurrence of gastric irritation or inflammation—at least, we have, in a vast many instances, during febrile epidemics, thus relieved persons who were complaining of the incipient symptoms of fever, which have been so ably pointed out by doctor Rush, as we shall presently show.

Would our author have us to understand, that the practice of Broussais only needs correction, so far as it may be necessary to remove "impurities?" Does he here mean the impurities taken in by the mouth? Are we to lose sight of the abundant, and constantly accumulating secretions? Do they not often continue, in a most surprising manner, to accumulate, and to oppress the patient? Do we not almost daily see the most prompt relief from copious discharges of vitiated secretions, especially the biliary. We will here briefly relate a case, remarkable indeed, but we have seen many in a great degree similar, as regards the abundant secretions and excretions. We were called to see a man in middle life, full habit, but temperate, affected with violent bilious fever, then common; and at a time when yellow fever existed, in some other parts of the city, but not in his neighborhood. We found him in the hands of an ignorant practitioner, on the fourth day of the disease, in a close room, lapped up in several blankets, drinking warm teas—his face as red as scarlet, and sweat pouring off him in torrents—pulse greatly excited, great anxiety, &c. All this on a hot summer day. His doctor had fortunately given him a portion of senna and salts, before beginning the sweating process, which had commenced its operation a little before our arrival. Believing, under the circumstances, that nature was about to make an effort, by vomiting and purging, to free herself, (for the discharges were altogether beyond what could have been expected from the feeble medicine which had been taken,) we at once resolved upon availing ourselves of the hint thus given, and to make the best of our way with an ignorant practitioner, who, thus far, outraged every rule of rational practice, but who was a licensed practitioner, and therefore too old to insult—and the patient's life too important, to disturb him with our disagreement, so long as we could work together without increasing the danger of his case. We suggested to the physician, that as the evacuations were more copious than could have been expected from a mild cathartic, and the secretions obviously prejudicial, as well from the quality as the quantity, we had better gradually abate the sweating process, and repeat the cathartics in moderate doses, till the evacuations became more natural. Our suggestion exactly met the views of this man, who, so far as he had any theory, was a disciple of Hippocrates. The most copious discharges of greenish dark bile continued to be poured out, by the mouth, and per anum, during the afternoon and succeeding night, till, we are quite certain, not less than three gallons of it

were discharged. After this, the quality was somewhat changed, and the quantity lessened, but very free evacuations per anum, continued for two or three days. Our patient had a rapid recovery, without any thing having been done previously, to relieve a violent fever, bordering on malignancy. We are aware, that in this case, the most imminent danger must have attended the feeble practice employed in its incipient state—the details of which we do not recollect. Our object in citing this case, which we now do from memory, is to show the absurdity (for we wish to use no milder term,) of expecting to cure such a case of fever, by leeches, and mucilage of gum arabic. At the time we were called in, to have trusted to the Broussaian treatment, would have been more absurd, and equally dangerous with the too feeble practice of giving some mild aperients and diaphoretics, as was the common practice in fever, with the practitioner of whom we have just spoken. We would ask, what experienced physician is there, who has not frequently seen cases of bilious fever, in which the most copious alvine discharges were kept up for several days, often so copious as to put us at a loss to account for so abundant a secretion. It may be said, that these are exceptions to a common condition of things—but, it will appear, we think, that when all the exceptions are taken, little or nothing will be left to support the pathological theory of the French.

“We are convinced, that it is within the recollection of almost every observing physician, the surprise he felt, when the more active forms of fever did not yield to the very powerful cathartics he employed to subdue it.”

No *judicious physician* will give “very powerful cathartics,” in the advanced stage of fever. He may, thereby, do far greater injury, by too suddenly prostrating his patient, than by doing any direct injury to the stomach. As a proof of this view of the case, we need only say, the remark applies more particularly to an intermittent protracted in a feeble habit. In such a case, by a drastic purge, we may do irreparable mischief—and it will not be said, that the injury arises here from direct injury to an inflamed stomach; since, if, instead of the cathartic, we give a few good doses of bark, or its active principle, or arsenic, &c. we arrest an approaching paroxysm, and thus cure the disease. The Broussaian may say, an intermittent fever is an exception. We say so too—and that there are many others. But we can most positively aver, that from our observation for thirty years, in the treatment of fever, in various parts of the United States, we have never been disappointed in the exhibition of active purgatives, such as calomel and jalap, our standard articles.



On the contrary, we have uniformly obtained the most decided advantages from copious purging, in the incipient stage of fevers; sometimes aided by the lancet—sometimes without. Nay, we have constantly observed a greater certainty of, at least, temporary relief from free alvine evacuations, than we did in the power of the bark to stop an intermittent. If the idea is to give mucilage instead of purgatives, in this country, in diseases of high excitement, we say good Lord deliver us, from a thing so replete with danger. A physician who “never dreamed that the stomach is in a high state of excitement,” in many cases of fever, is not acquainted with diseases of this country, nor with the writings of his countrymen, as we shall hereafter show. But, we must add here, that if any physician will practice on the idea of gastric excitement exclusively, he will destroy more by omission, than those who give purgatives promiscuously do by commission.

We need only quote the following paragraph, from the work of doctor Deweese, to show, that his own superior judgment will not permit him to be a real Broussaian.

“It is to the French pathologists principally, but especially to Broussais, and his friends, that we are indebted for the late important discoveries in morbid or pathological anatomy; and for the great improvement in the mode of treating almost every febrile affection found upon these researches. And, although we admit without hesitation, that they have in some instances, run into an ultra mode of treatment, yet we are in truth obliged to acknowledge the value of their discovery.”

We cannot but notice the almost exclusive credit, which is here given, to Broussais. We had thought that Laennec was the principal founder of the really pathological school in France. We are inclined to believe, however, that our author had reference to febrile diseases, when he said *morbid anatomy* in the foregoing paragraph.

Our author claims much for the *discoveries* of Broussais, in pathological or morbid anatomy. No one is more willing than the present writer, to ascribe all the honor due, for the patient and successful researches into morbid anatomy. But we differ from some of his readers and admirers, in this: We contend, that he points out to us the effects of the disease, as its cause. Then, so far as we look to the appearances found after death, as the cause of the morbid phenomena which led to death, we should direct our remedies to the effect, which is but a prominent symptom, or sequela, of a preceding disease. So that we should thereby, too often, prescribe in anticipation of this gastric excitement, or too late. The stomach, when once involved in

this state of morbid derangement, is too often in a way to fall under the knife of the dissector, who may succeed as an acute and patient observer, or pathologist—but, let us not forget, that his works, being post-mortem, come a day or so too late!—Whereas, a follower of Rush, will anticipate this state of suffocated excitement, or common excitement, or inflammation—which last, sometimes, exists during life, but leaves only slight, sometimes no traces of itself behind, as was well known to Rush.

In short, look upon inflammation, or local excitement, as the effect of general morbid action in fever, and you will, by checking the fever early, destroy the train of morbid action, so apt to terminate in a phlogosed state of the stomach, liver, spleen, brain, &c. But wait till these local derangements take place, and it is too late to save the patient, though never too late to add to the list of pathological observations.

We do not admit, however, that so soon as the stomach or intestines take on irritation or excitement, we can no longer exhibit internal remedies, gum arabic water excepted. The experience of the numerous writers upon the several febrile epidemics of our country, to which we may add our own uniform experience, shows, that in all febrile diseases, purgatives suited to the nature of the case, having reference to its violence, periods, duration, constitution of the season, &c. are uniformly beneficial, excepting nothing but extreme general debility, or cases where there are already too free discharges from the bowels, attended with debility.

In awarding our praise to Broussais, and we too believe he has in no small degree, added greater certainty to our views of the final result of fever, we shall endeavor to express our opinion in as few words as possible. Broussais, by his own acknowledgement, lived in an age when there were great fears of debility among those with whom he associated—that is, among French practitioners. Therefore, if we may believe him, had they not been afraid of debility, many would have been saved, that were lost for want of free depletion. (See title page of the work under review.)

Broussais then, according to his own acknowledgment, was afraid to deplete. He lost patients; but, having been kept in the dark, he asks, "But who was to blame?" Such practice afforded opportunity of examining the dead; and the dead, examined under such circumstances, would present the appearances he describes, with a frequency, and strength of coloring, proportioned, as a general rule, to the remissness in the employment of depletory measures. And, we must not forget, that

most of the French physicians, at this time, were either advocates of a theory approaching to the Hippocratic, or followers of the same, as modified by Pinel, whose curante expectant governed with resistless sway. Things conspired then, around Broussais, to cause him to see in his post-obituary subjects, those congestions, which were so well understood in this country, since the year 1793. Had his subjects been treated, during their living state, on the depletory plan, long since well understood in this country, many of them would have been dissected, at periods future to that in which they were suffered to die, of a congested state of the viscera, which the lancet and purgatives would have prevented. If M. Broussais had been so fortunate as to have fallen in with the writings of Rush—or, having fallen in with them, as he most likely did—and could he have placed confidence in them, and depleted freely, he would have found fewer subjects for dissection; and many of them would have afforded fewer and fainter traces of irritation or inflammation, which are sure attendants of fevers mistreated.

If we are right in the foregoing views of this subject, Broussais is more especially entitled to the praise and gratitude of his countrymen! There it was, and in his time, that such weak fears of *debility* existed, as to deter from reasonable depletion. There he has done incalculable good, by arousing his countrymen from their darkness, and led them into light; but, as we have already said, he comes among us almost half an age too late. The sentiment which we here express, requires illustration—and we shall briefly offer it.

The diseases of France are mild from climate, from temperance, so long continued, as to have improved the whole race of people: and, hence it was, that the theory and practice of Pinel, could so long lead the profession captive. But, notwithstanding the mildness of their diseases, so uniformly does irritation, or bowel inflammation, attend upon disease, that in all febrile diseases, some important viscus is soon involved, particularly when not checked early by depletion. Broussais, seeing this, adopted a course of depletion—but irreconcilable prejudices were in the way, among the profession in France. And, therefore, it is not unreasonable to presume, that he would have found much more difficulty in introducing the lancet, in febrile diseases, than the leeches. The bold depletory practice of Bo-tallus had long ceased, we may presume, to exert any influence over the minds of the physicians of France.

Broussais, having offered sufficient evidence of gastro-enteritis, in the last stage of fever, had no difficulty, it would seem,

to convince his countrymen, that it existed at the commencement; and, however gratuitous such an assumption might be, it could not well be disproved—because men could not be dissected till dead: well, then, may it be asserted, since it cannot be positively denied. Having established this gastro-enteritis to be no less considerable a thing than the veritable cause of fever, the call for sanguineous depletion was too clear to be denied. And, although they could be assured, of such congestions being the natural tendencies of fever, as taught in the works of Rush, and many others—still, they never had ocular proof, till the dissections of fever patients made it too plain to be doubted. But, notwithstanding this success, in the pathology and theory of fever, it would probably have been in vain to have tried to introduce the lancet, to the requisite extent. To leeches, there seems to have been far less objection, than to the lancet. It was, therefore, the better policy, to offer this expedient—it came with the appearance of novelty, and safety—and was, in truth, a most salutary innovation upon old habits; and truly important in France, because of their milder diseases and better habits, than those of this country. But no sound philosopher in medicine will say, that because a remedy is well suited to the diseases of France, they must necessarily be well suited to those of the United States.

"The premises and deductions of Broussais, we are aware, are not universally admitted; but in this he shares but the fate of all who have made valuable contributions to medical science. Some pass over his suggestions even without notice; while others furiously dispute the condition of the organs on which they are based. The one is a reprehensible indifference; the other, too often is an uncandid examination."

We must claim exemption from the classes of opponents, here named, to the doctrines of Broussais. We have paid particular attention to his "suggestions," we could not doubt of their accuracy, because they were known in this country, in anticipation of the publication of Broussais. At the same time, we willingly admit, that his researches have done much to strengthen the prevailing notions in this country, that fever unsubdued by the lancet, will terminate in irritation, congestion or inflammation, of some vital organ. On the other hand, while we do not deny the existence of turgescence of the vessels, of the inner coat of the stomach and bowels, we give full credence to the reports of other observers, that this appearance, of the hollow viscera is frequently seen in cases of death from very opposite causes. If doctor Dewees means to say that the examination is always "uncandid," where the appearances noticed by Brou-

ssais are not found on dissection, we will risk the imputation of want of candor, which might thence attach to us, for saying, that they are not always present; and, we think, the observations of our author will bear us out, as he admits in some part of his work, in the next paragraph indeed, that fever may concentrate its force on the liver, lungs, brain, &c.

According to our ideas, Broussais is entitled to our admiration for the light which he has thrown on pathology. But as regards the treatment of diseases of high excitement, which are so common in this country, if followed, it would do incalculable mischief.

"The discovery of the inflamed condition of the stomach in fever, leads to many highly important observances in the choice, and in the administration of remedies; this both regards their qualities, and quantities; and will very emphatically account for the many failures in their cure, before this valuable pathological fact was thoroughly established. It also points out the value of local depletion, by either leeches or by cups; and satisfactorily accounts for the frequent success that follows the loss of a comparatively small quantity of blood, when abstracted by these means, from the region of the stomach."

We believe with our author that a knowledge of the tendency to a phlogosed state of the stomach is important; and, that, Broussais has placed this matter in a clearer light than prevailed before his observations; but, it by no means follows from this, that this phlogosed state of the stomach is the cause of the disease, or that we are so tenderly to nurse the stomach, as to treat active inflammation by gum-water; or that we are to avoid purgatives. This view will serve to shew the unsuitableness of stimulants in such cases, whether it be in medicine, regimen, drink or mental excitement, but, by no means that calomel, jalap, antimony, neutral salts, &c. will act as stimulants. We have already expressed our opinion on this point—we hold, that, even admitting the existence of gastro-enteritis, to a certain extent, we may arrest its career by reasonable doses of salts, antimony, calomel, &c. Nay, more, we most solemnly believe, that in some cases, particularly in some epidemics, we cannot arrest or prevent this state of morbid action, but by the exhibition of cathartics, or aperients, suited to each individual case—among these calomel deservedly holds a high rank, among a very large portion of the profession of this country.

That local depletion by leeches, or by cupping, will often be attended with well marked advantages, we have no doubt. But in many cases of high excitement, it would be extremely dangerous to trust to this mode of depletion. It is, therefore, in cases of feeble excitement, or in which there has been suitable general

depletion, that the local abstraction of blood, now and then, does essential service. But in most of these cases a small quantity of blood taken from the arm, would do just as well, and, sometimes it will happen, that if the general excitement be too high, local bleeding will greatly augment the vascular distress. It is true, this will also occur in the employment of general bleeding, as was well known to Botallus, Sydenham, Rush, &c. that is, if we bleed in fever, and do not bleed as much as the case calls for, we may have a great increase of vascular action, as a consequence of taking away blood enough to unlock the vessels, in a state of depression, without taking enough to prevent reaction. There is this difference, however, that by trusting to local bleeding, too early, in diseases of high excitement, we run the risk of letting some viscus fall into a state of congestion; whereas, by lowering general vascular action, if bleeding be indicated at all, the local can now do no harm; and may often do good. There being a state of *minus excitement* in the *general system*, in protracted disease, while there is a state of *plus excitement*, in the *stomach, liver, brain, &c.* we now, (as well as in chronic diseases,) may expect the most decided advantage from local bleeding. But if there be a state of *general plus excitement* accompanied with *local excitement* it would not only be useless to employ local bleeding, but, by trusting to it, we may do irreparable mischief. In a word, it is only where some viscus is in a state of *plus excitement*, while the general system is in the *minus state*, that any well marked benefit will be derived from local bleeding.

"We do not, however, yield entire faith to the French pathology upon the subject of fever; namely, that its seat is always in the stomach. For so far we have not had sufficient proof, that an inflamed condition of the mucous membrane of this organ is the true cause of adynamic or typhus fever. So far as dissection can be relied on, this organ has very often been found in a normal state in patients who have died of this fever."

We conceive that the concession made above, by doctor Dewees, amounts to little less than an abandonment of his whole theory. We may see, by turning to the chapter on typhus fever, in the new practice of medicine, that to get over the difficulty in the way of Broussais, in the fact that, *adynamic fever* very often leaves in the stomach no traces of inflammation, our author alleges, that typhus fever is a contagious disease. And, in support of this, he quotes Armstrong as authority to sustain his views—if doctor Dewees had looked into the latest editions, he would have found doctor Armstrong ingenuously and ingeniously, and very positively, proving the identity of the cause of typhus and bilious remittent fever. We have so fre-

quently seen typhus falling in upon bilious epidemics, so closely confined to miasmatic situations, that our common sense would leave us no room to doubt. We are aware that our author contends, that there are two kinds of typhus; but to us there is nothing new in this. We must claim the privilege of judging, whether we have or not, seen typhus prevailing in this country, in a practice of thirty years. If Cullen, Armstrong, and others, have described typhus, we have seen it several times in the form of epidemics, in this country; and, we have many years since published our opinion of their being typhus, as a disease, *sui generis*, and secondary typhus as a consequence of other febrile diseases.

If it be conceded that typhus fever is an exception to the opinion of a phlogosed state of the stomach, and that in this form of fever we may rather look to "the brain, the liver, and the spleen," for the evidences of congestion, in vital organs, from general fever—and if doctor Armstrong, and many other competent observers, are satisfied of the identity of bilious remittent, and typhus fever, these being modifications of disease arising from one common cause, perhaps slightly modified by the remote cause, what shall we say to a theory which ascribes bilious remittents, to gastro-enteritis, but admits that no such thing exists in adynamic fever.

"In all fevers that may have marsh miasma for this remote cause, the stomach we believe will almost always be found to be in the seat of this affection."

We shall defer any particular examination of this point till we come to notice the article of remittent fever, suffice it to say here, the identity in the remote cause of intermittents, remittents, and even yellow fever, is almost universally admitted in this country—now if a fever is remittent to day, and by a cathartic, by bloodletting, or what, indeed, is not uncommon, by leaving the case to nature, a remittent of to day, may become an intermittent to-morrow—how are we to proceed? Stimulants are highly prejudicial in the one, and beneficial in the other—yet, according to doctor Dewees, fevers "almost always from miasm, have an inflamed state of the stomach as their cause."

"It moreover directs the choice of both diet and drinks in cases of fever—for it at once admonishes us to the cautious use of all; and imperiously forbids the employment of any which belong to the class of stimulants."

We are sensible of the important truth, that "the choice of both diet and drinks, in cases of fever," is a matter of great im-

portance; and that the researches of Broussais has thrown much light on the subject, confirmatory of the opinion of Rush. But, if any one who has forgotten the fact, or neglected it, will look into Rush's observations, on the yellow fever, of 1793, he will see, that nothing was left Broussais, but to confirm the views of Rush, by his dissections. We may have occasion to notice this point more fully, when we come to speak of the subject of remittent fever. We wish only to say, at this time, that in the observations of doctor Rush, upon the epidemic of 1793, to say nothing of many who had preceded him, though no one, perhaps, before his time, had so clearly, so emphatically, established the fact, that in febrile excitement, the utmost danger was to be apprehended from the use of stimulants, cordials, nutrients, &c.

We are extremely sorry to learn that under the observation of doctor Dewees, "the use of the first, (that is drinks and food,) appears to be more frequently delegated to the nurse or attendant upon the sick, than to form a part of the regular and necessary prescription of the physician." It has been our lot to see things in a very different state, among such of the profession as have fallen into our acquaintance. And for ourselves, we without egotism claim the merit, if there be any in it, of having, long since, paid especial attention to this branch of practice. Nay, he who is regardless of this very important part of his duty, is either unacquainted with the prevailing practice in this country, or wilfully remiss in what should consign him to the rank of quacks, or subject him to the charge of criminal inattention to what is, or should be known, to the tyro in this country. On this point, Broussais cannot instruct the mass of our physicians. But, censurable as we should deem such a failure in the treatment of fever, we should not look for more evil from this source, than from the lamentably feeble practice of Broussais, in his reliance on gum-water, starvation, and leeching.

The effects of gum-water, applied with a view of lubrication, are altogether gratuitous, and quite too mechanical; of all things perhaps, it is most apt to turn acid: a few hours is often sufficient to sour this mucilage in warm weather. The economy of the stomach is such generally, that what it does not digest, it is apt to retain for several hours; and hence it is, that the gum-water being detained, if the stomach is too weak to digest it, will become acid, and an irritant; or if the stomach still retain the power to act upon it, the properties of the gum will be altered, and we know not exactly what may become of it—the presumption is, in most cases, it will be taken up by the lacteals, and passed into the blood-vessels. So that, admit that the stomach is



in a state of irritation, we are still decidedly of opinion, that common water, cold, warm, or tepid, according to circumstances, that is, as there shall be more or less fever, or sometimes, as may suit the caprice of the stomach is decidedly better for quieting the stomach than gum-water.

In acute fever, the plan of starvation is, generally speaking, of very little importance; mostly there is either loathing or a disinclination to take food. We do not mean to say, however, that friends, patients, nurses, &c. do not, occasionally, force these articles improperly upon fever patients, but, we mean merely to say, that all this is well understood by thousands of our physicians, who never attempted the employment of the plan of Broussais in fever. It is in chronic diseases, that abstinence comes in for so large a share of therapeutic influence, and with much pleasure, and no less confidence do we aver, that doctor Physick has done more to enlighten us, and improve the treatment in chronic affections, than has been done by any writer we have consulted.

We have so fully discussed our views of the leeching practice, to the exclusion almost of the lancet, in a former part of this volume, that we do not deem it necessary to extend our remarks, on this point. Leeches, no doubt, may be used under proper circumstances with much advantage, but we would hold up a warning voice to the younger part of the profession, never to trust in considerable fever, or inflammation, to leeches. The mass of testimony which may be brought to sustain in this opinion, is such as ought to convince, and satisfy every reasonable man. Nothing is better known than that, if you bleed in fever, and bleed too sparingly, you might as well not bleed at all; because, as was known very long since, if the cure of a fever requires the removal of four pounds of blood, and we only remove two pounds, we shall do no good, and, indeed, sometimes we shall do harm.

"From what has been said, it would appear, that, in the cure of fevers, much will depend upon the choice, and the due administration of drinks and food; and, moreover we hesitate not to say, that all well regulated experience is in its favor."

If we are to understand from the words, "from what has been said," that we were lacking in a correct knowledge of this matter, till instructed by Broussais, we answer, that his claims come much too late for this country, whatever may be their merits in France. Nevertheless, we not only approve of the admonition, here presented by doctor Dewees, but we think his observations important; because it must be

confessed, that most of us require, at least as much, to be reminded of more common matters, as we do to be taught after being pretty well grounded in professional knowledge. Such being the fact, it must be acknowledged, that we are under obligations to our author, for the forcible and clear manner, in which he has insisted on the relative duties of physicians, friends, and nurses—too much particularity can scarcely be bestowed upon this subject.

"It should be recollected, (says doctor Dewees) that *debility is not disease.*" Of whom did he learn this important fact? Was it not from the almost forgotten Rush?

We quote the following as remarkable for its obscurity of expression, and knowing as we do the talent for writing, possessed in so eminent a degree by our author, we cannot but ascribe its singularity to the hurry, which we fear is too common, in getting up American books.

"Weakness, or debility, is the necessary consequence of disease, whether it be suffered to run its course without interference, or has been treated agreeably to the rules of art. The patient and the disease, therefore, must be looked upon as a unit; and consequently, whatever abates the one, must necessarily diminish the other; and in most instances of acute, and continued disease, there is no removing the one, but at the expense of the other. This fact should constantly be borne in mind; because, as a great practical truth, it may tend to diminish the apprehensions just named, as well as give the best possible chance for the patient's recovery."

"The patient and the disease, therefore, must be looked upon as a unit." Now, it would seem to us, that, if the human body, in a state of health, may be viewed as a unit, that it cannot be so viewed, when disease is added. But admit the sickly unit, and what possible advantage, or practical inference can we draw from it? But, says our author, "whatever abates the one, must necessarily diminish the other." How shall we conceive of two parts to a unit—abate one and diminish one: to use a child's phrase, here are *two one's*. The author continues, "there is no removing the one but at the expense of the other." We do not comprehend the phraseology, which treats of compound units. We presume the author means to convey the idea that, debility is the consequence, or the effect, arising from morbid action. That this is frequently the case, there is no doubt, but we would decidedly object to its general admission, for as was long since said by doctor Rush, debility is often the predisposing cause of disease; and, there are many cases where after the entire overthrow of morbid action, or sensible disease, debility is left from which the patient would never recover, were not something given to invigorate the languid and enfee-

bled body. The mistake which doctor Dewees is here endeavoring to correct, is that of ascribing debility to a wrong cause: to wit, feeble action, or a state of exhaustion, when it should be ascribed to over-action, or rather depression from over-stimulation. Nevertheless, we fully agree with the author, in the opinion, that "where one dies from pure debility, a hundred perish from over-stimulation;" and consequently, we view this as a matter of primary importance. Our remarks are becoming extended, and likely to extend beyond what we had intended, we shall, therefore, pass over this part of our subject, until we take up the subject of remittent fever.

The following is too remarkable to pass without comment; "fever for the most part, has for its cause a local inflammation, and that inflammation seated in one of the most important organs of the body; namely, the stomach; if this be admitted, and admitted it is, *by all the most enlightened of the profession*, will not the common sense of mankind revolt at the idea, that this formidable condition of the system is to be overcome by means like those just enumerated?"

It will be conceded, by all the most enlightened of the profession in this country, that the mal-administration of stimulants, or tonics, whether in diet, drink, mental excitement, or medicine, will give rise to all the evils pointed out by our author. But so far are we from believing, in the prevalence of the idea, of simple inflammation being the cause of fever, that we are not personally acquainted with one respectable physician, who believes any such thing. We have already so fully expressed our opinion on this point, that we shall not here attempt its refutation.

A part from the theory which our author borrows from Broussais, and which is beset with so much obscurity, and so little probability of its soundness; nay, so obviously wrong, to our apprehension, that we consider that part of his general observations which treats, more particularly, on the abuse and proper use of articles, of drinks, of food, and medicine, a valuable article—As relates more especially to the abuse of food and drinks, we take much pleasure in bearing testimony to the correctness of the remarks; they come, however, but to remind us, in favorable language, of what we, long since, were well aware; and we have no doubt, "all of the most enlightened of the profession," have long been familiar with the advantages of due abstinence, on the one hand; and proper stimulation or sustenance on the other, that is, so far as simple theory is concerned; but, the proper regulation of these is the most embarrassing part of our professional duty.

We are told, that, "the duties of the nurse are various as well as important; and consists in her qualifications for the office; the faithful administration of remedies; the giving of drink and nourishment; attention to cleanliness; keeping the room quiet; procuring its proper ventilation; preserving a proper temperature of the air of the room; regulating the warmth of the patient; the examination and preservation of his excretions, her management of his sitting up; making of the bed; the proper use of the utensils for the evacuations; the modes of giving him drinks; the application and dressing of blisters; the administration of enemata; and the management of the patient during convalescence."

Doctor Dewees has pointed out the nature of the several duties which he here enjoins upon nurses. We cannot but notice the fact, that our author seems to write for Philadelphia; and, thus, overlooks, in many parts of his work, the fact, that his work to be extensively useful, in this widely extended country, both in the medicinal and dietetic departments, should be suitably varied, to meet the general want. The great mass of patients in this country, know nothing of professed nurses—the several members of a family, the mother, sister or male relatives, sometimes kind neighbours in turns, take the task upon themselves of nursing, those for whom they have the necessary respect—and even in our large cities, we see much of this, not only in all families in the lower orders of society, but a large proportion of the more genteel people, who prefer this mode to that of hiring nurses—and this is likely to prevail long in this country.—It is true the admonition is neither less necessary, nor more important, under all circumstances than it is to the professed nurse. But too much stress should not be put upon the qualifications of a nurse, since in most cases, there will be no nurse, and, therefore, it is highly important, that the physician should make himself acquainted with the several important duties, which *do* devolve upon the real nurse.

We see some items in the list of duties, as pointed out by our author, which we should never willingly delegate to the nurse, in critical cases; such as "examining the excretions"—(the retaining of them is their part in this matter,) the "management of his sitting up—the management during convalescence"—these are obviously duties belonging to the physician, so far as he can perform them, and no one can perform them so well as himself. Our author has devoted a few pages to several subjects belonging to the nurse. We shall very briefly notice each of his divisions, but wish previously to offer a few remarks upon the subject generally, before we proceed to particulars.

The subjects now under notice, are more properly popular than professional. In this country it is the people—the people, who nurse each other alternately, so far as circumstances require

—nevertheless we are pleased with the good sense of doctor Dewees, in incorporating his sick-room instructions into his practice of medicine; it makes an essential part of the education of the physician, in most parts of our country; and if he does not make himself familiar with, and carefully attend to the affairs of the sick room, his patients will often suffer, even unto death. Indeed, there are but few families in which it is not absolutely necessary, that the physician should, from visit to visit, very particularly specify all the particulars, connected with the welfare of the patient. He will often find persons who will faithfully execute his directions, but, who, would not dream of doing things which are of the highest importance in the eye of the physician.

But, what makes these observations more particularly important at this time, is the fact, that the fashion of medical education has undergone a very remarkable change in the United States, within a few years. A few years since, very few of our practitioners graduated—we find that in the year 1805 there was but fifteen graduates, in the Philadelphia school, and, yet, at that time, the classes were pretty numerous. These students, instead of depending almost entirely upon a college education, relied more on clinical observation under some practitioner—they thus become instructed in all the concerns of the sick-room—whereas, at this time, the fashion is to graduate, and very many pass through their studies, deriving all their knowledge from books, and lectures. There are strong objections to both cases, but, of the two, the present mode of education is not calculated to make as good practitioners as the former, although, students will not likely acquire more knowledge of the science. Both extremes should be carefully avoided; we, therefore, will not stop to make a comparison between them.

Our author has bestowed two or three pages upon the subject of the qualifications of the nurse. His remarks bear evidence of an intimate acquaintance with this important subject. We have already stated, that doctor Dewees's remarks are better suited to large cities, than they are to the great mass of the people. Out of large cities, no competent hired nurses are to be expected, these observations are, however, no less necessary for the young physician, than they are for nurses. And it is the duty of every student to make himself well acquainted with the duties of the nurse, since in most instances, he must teach his nurses, as he goes on in each family.

We find some observations 'upon the faithful administration of medicine'—among these the following remarks. "In insisting on the entire conformity of the nurse to the directions of the physician, we do not wish

to be understood as declaring, there is no exceptions to this rule. On the contrary, the patient, as well as the physician, are occasionally indebted to the nurse, for a judicious suspension; or perseverance in remedies, beyond the strict letter of his orders; and especially when such departure has proceeded, from a genuine exercise of judgment; and not from a wayward determination to disobey. Now, as there must necessarily exist every variety of constitution, as well as very many peculiarities, or idiosyncrasies, no one can be certain, that the remedy ordered, shall act precisely as desired; consequently the departure from such expectations may be great; and were the medicine not suspended, or sometimes urged, beyond the common direction, much injury might ensue. In such cases, the judicious interference of the nurse, may be highly valuable, and fortunate."

That there may be cases wherein it is really essential that the nurse shall deviate from orders, we are well aware; but we should be extremely guarded how we admit the pretensions of nurses, to a "genuine exercise of judgment." The fact is, that, in most cases, the nurse or attendants, provided the distance should not forbid, or something unexpected occur, when the physician is not to be had, should give notice of extraordinary occurrences, instead of exercising *their judgment*. The judicious physician will seldom be found in such difficulties. It is his duty to inquire into idiosyncrasies, &c. and, whenever there is any room for apprehension, nurses should be apprised of what may occur, or, at all events, made acquainted with things which may arise; and provisional directions should be given, so as to leave as little as possible to the discretion of the nurse. We are aware that this sometimes cannot be done, most generally provision may be made conditionally, or directions left to call on the physician in case of difficulty. It is extremely important, that every young physician make himself familiarly acquainted with the nurses department; and he must never shrink from his duty, in keeping a vigilant eye over nurses, whether they be voluntary or hired nurses.—They may run into mistakes; they may omit some part of their duty, without intending to do it; or they may perversely conceal their faults; a careful practitioner will mostly discover these failures.

The father of the present writer, though a disciple of the old Boerhaavean school, was one of the most particular practitioners in matters of regimen that we ever knew. By his vigilance and skill in managing these matters, he would often get credit for knowing things, which he made the nurses or attendants tell him. So common and remarkable was this, that it was a prevalent notion in the neighborhood in which he practised, that he could tell the very article of diet which might happen to be taken contrary to orders. He was an uncommonly successful

practitioner in chronic diseases; and he owed his success mainly, to his extraordinary attention to diet, and what he, and those of his day, termed the non-naturals.

We have, in the work under review, a few remarks upon the subject of giving drinks and nourishment. Surely no judicious physician will doubt the great importance which attaches to the proper regulation of this matter. The following concluding remarks on this subject, are in strict accordance with our own views—"an error in quantity, it should be remembered, is almost equal to an error in quality; for every particle that remains unsubdued by the stomach, becomes offensive, because it remains unsubdued. Or if it be subdued, it may be extremely injurious, by affording too much nutriment to the system, at a moment it requires absolute reduction. So important then is the due administration of nourishment, that the nurse should never be left to her own discretion." Most undoubtedly never!

Our author goes on to enumerate some of the more important concerns which necessarily devolve upon those, who take on themselves the office of attending the sick. In addition to what we have already noticed, he treats of cleanliness in the sick room—of quiet in the sick room—of the ventilation of the sick room—of the temperature of the sick room—regulating the warmth of the patient—the examination and preservation of the excretions—of the patient's sitting up—of the making of the bed—of the proper using of the utensils for evacuations—of skill in applying and dressing blisters—of the administration of injections, &c.—of the management of convalescence—relapses.

Under each of these heads we find many judicious remarks, such indeed, as we had a right to expect from doctor Dewees. We cannot help repeating, however, that the information here offered, belongs rather to families—it is the physician's duty to direct; and each family should know how to follow directions, in these very important matters—they belong rather to popular works, than to a practical system designed for the profession.

We are pleased with the observations of our author, under the head of relapses, but there are some items to which we have some objections. After speaking of articles among the lighter kinds of animal nutriment, such as weak chicken water; weaker beef, or veal tea; or the diluted juice of oysters, it is said, "that the patient should be confined, for at least three days, to the above prescribed articles, before the power of the food be increased; and when this is determined on, such substances should be selected, as will very little exceed in strength

those already exhibited. These will consist of the soft ends of five or six oysters; a soft boiled egg; a small piece of boiled fish, or the cold custard."

"After this plan has been persisted in for three or four days, the patient may be indulged in a small piece of boiled mutton; the breast of a partridge or pheasant; turkey, or chicken. And after as many more, he may be allowed, a small piece of rare done beef or venison stake; mutton chop, or sweet bread. At this latter period, a tumbler of ale, or porter and water, may be given at noon, with the meal intended for this hour; provided no other circumstance exist to render this improper; such as its causing head-ach; flatulency, or sourness of the stomach."

As a general rule, we believe, the practice of confining convalescents to the light articles above mentioned a very good one; but, it will often be found, particularly in dyspeptics, that these articles are wholly inadmissible. And independent of this fact, the rule is too arbitrary. Much will depend upon idiosyncrasy, the season, constitution of weather, as connected with epidemics; former mode of living, duration of the disease, nature of the treatment, &c.; all these, and many other matters are to be carefully attended to, and will never be neglected by the judicious physician. Every physician must be acquainted with the fact, that in acute disease, where there has been severe illness, without any tendency to malignancy, or much disturbance of the assimilating powers, healthy subjects may be greatly reduced; partly by disease, and partly by depletion, and yet his system may be repleted, almost as soon as he becomes convalescent, without any untoward circumstance occurring. We have seen men undergo severe attacks of pneumonia, dysentery, hepatitis, &c., rise out of bed, and return rapidly to a pretty full diet; set out upon their way home, and cross the mountains in the time marked out by doctor Dewees, during which convalescents must observe a rigid abstinence—we do not, however, advise "such rapid" movements.—But in the rules of doctor Dewees we have three days for the first period; "three or four" for the second; and "as many more" as the last term, before a "beef or venison steak, or mutton chop," may be taken, or a "tumbler of ale, or porter and water," can be allowed.

That there may be cases requiring this long discipline, we have no doubt, but as a general rule, the time recommended is too long; and much unnecessary delay, inconvenience, &c. will thereby be imposed upon patients. If the plan is ever to be made general, it can only be proper during a decidedly inflammatory constitution of weather, such as was so well marked in the summer and autumn of 1793, in Philadelphia. We, therefore, think that our author has failed in some degree in his in-



structions to convalescents, in having made the rule too general, and too severe—nor do we much approve of his meagre list of articles presented to convalescents.

We are no less sensible than our author of the many evils often arising from improper eating or drinking, both as regards quality and quantity; and we well know, that a patient may not only eat himself into a dropsy during his convalescence; but that he may beget a beef-steak fever, dysentery, colic, phrenitis, &c. by the use of too stimulant a diet. But, who can acknowledge the propriety of a direction, as a general one, that a convalescent, no matter what the disease, nor how long diseased, cannot be allowed a little ale, or a little claret, at a much earlier period, than *nine or ten* days after being convalescent. In many broken down subjects, accustomed to strong potations, ale or porter, may often be given, so soon as we have clear intermissions of fever; and in some few cases, even in the remissions of fever: much depending upon the prevailing character of diseases at the time.

But we cannot conceal our firmest conviction, that however fully we agree with doctor Dewees in the depletory system of treatment, both in regard to medicine, and in the regulation of diet, &c.; still, we fully believe, nay, we know, that injury will result to some individuals, from confining them too long upon a very reduced diet; and dropsy will, and does sometimes proceed from debilitating treatment, too long continued. So soon as the assimilating powers recover their normal state, (we speak of convalescents,) it is essentially necessary, that we keep pace with their wants, otherwise we keep the patient in a state of dangerous inanition; and, indeed, this, we think, is one of the most difficult and important points within the province of the physician. If the nutritive apparatus is not supplied agreeably to its wants, by law of the animal economy, the fluids undergo a sort of second assimilation. The fluids must circulate through their rounds; they are again and again presented to the assimilating or plastic machinery; and will be more or less acted on; thus the blood becomes deprived of its wholesome properties, becomes reduced, and an unfit agent in the sustentation of the body. This will sometimes lead to morbid as well as to reduced action. We repeat, then, that equal skill is required to know when we should deplete, as to know when we should not.

We must here repeat our remark, that doctor Dewees has written too much for Philadelphia habits, customs, diseases, &c. Let us turn our attention over our vastly extended country, and we shall see many parts in which "five or six

oysters" could not be had to save a life—nor can you get boiled fish, nor a cook to make cold custard—nor rare beef-steak, or mutton chop, nor a tumbler of ale, or porter and water—and at many times you cannot get a partridge, a pheasant, or turkey. What is to be done?

In early convalescence we may use weak coffee, thin chocolate, weak green, or black tea, with a little dry toast, toasted bread soaked in water, taken very sparingly—panada without wine; bread tea, made by pouring boiling water on the crust of bread, a little salt added, and to this may sometimes be added about a third of milk—or a little bread may be sluiced into a bowl, a little salt added; and after the bread is scalded, add a few spoonfuls of sweet or sour cream, to suit the taste of the individual—or to the bread and water, may be added while still nearly boiling hot, an egg well beaten up, to which you may add a little salt, and vary this to suit the individual's taste, by the addition, while still hot, of a little milk, or sweet or sour cream. To this list of fare, may be added indian gruel, and the infusion or teas of beef, veal, or chicken.

If the stomach is found to bear these and other articles of a similar nature, and we think the time has arrived at which we may proceed a step further, in affording nutriment; we may allow a continuance of more or less of the above—a little mush of indian, wheat, or rye flour with milk—rice, well boiled, and eaten with a little sugar; with or without a little milk—a soft egg, boiled fish, custard, hominy liquor, thin soup of animal flesh, with a little rice—and the German will now relish his meal soup—this is made by carefully stirring a little wheat flour, with a little lard or butter, in a frying pan over the fire, till the whole is of a light chesnut brown color, taking care not to scorch it, then having a little thinly sliced bread, scalded in the necessary quantity of boiling water, this browned mass is to be gradually thrown in, while the mass is slightly stirred, in which operation the bread should be broken as little as possible. We have also found what is called, in some parts of our country, cider soup, a very palatable and suitable article, particularly in the autumn, while remittent fevers prevail, and we can procure sweet cider, which will not stimulate much. This is made by bringing the cider to a boil, then pouring it on a little thinly sliced bread, then a little egg, flour and water well beaten together, is to be very gradually added so as to secure its complete scalding. We found this article particularly acceptable to convalescents, in the epidemic of 1804, noticed in the

present volume, as having prevailed in Adams county, Pennsylvania. Some will prefer mulled cider, eaten with a little bread. A roasted apple, a little ripe fruit, with milk and sugar, or cooked fruit, ripe, or dried, as apples, peaches, pears, &c. eaten with, or without milk and sugar—what is called apple fool, (green or ripe apples well boiled and mashed, with a little sugar, and eaten with milk.) Many other articles will no doubt suggest themselves to practitioners, which may correspond in some degree, with the habits, or customs, of particular sections of country. We have no objections to the articles of animal food, named by doctor Dewees, where they can be had conveniently. In this stage of convalescence for want of porter or ale, and sometimes where we find a strong dislike to these liquids, weak brandy, whiskey, or gin toddy, will be found occasionally useful; sometimes essentially necessary. Or, a little good cider may be used, or metheglin and water, or a little mead—or wine if to be had of good quality.

In the third stage of convalescence, we may venture upon almost any article of diet, to which the patient has been accustomed, provided we give very little at once. Salted meats, being a good deal indigestible, should be used sparingly; rich gravies should be avoided, but the usual condiments, as salt, pepper, mustard, horse-radish, &c. may be used pretty freely. Among the more agreeable, and proper breakfasts, may be named good coffee, with bread and butter, and a little chipped beef, or salted fish. Vegetables, well cooked, may be taken, provided they do not disagree in the state of health. As the stomach resumes its function, we should, instead of increasing the stimulant drinks, which we have named as being allowable in the second stage of convalescence, gradually withdraw them.

We would remark in conclusion on this subject, that one of the most important matters connected with regimen, is this: regulate your stimulants in diet as you do your medicinals—never prescribe by the day, nor week; but look to things present, more especially, in some degree, to what has passed; also, pry as far as possible into the future. Thus we shall find, that some patients will bear articles that would prove highly prejudicial or destructive to others—that the convalescence of some under circumstances, apparently similar, will bear animal food, when others would not; nay, they will require it while to others it would be highly injurious. The diet then calls for no less skill than the administration of medicine, and assuredly, he who ne-

glects this truly important part of his duty, will never be a successful practitioner.

But the first circumstance upon which we would most decidedly and emphatically insist, is, never to permit our patients to indulge in much variety, on the same day; nor to make too great changes on successive days. We have for years past paid especial attention to this part of our duty. We not only have very strong objections to much variety in food or drinks, because we know it to be attended with much evil; but, it is beset with an additional objection, which calls for vigilance, in the fact, that nurses, patients, and friends, are very apt to get astray, in this particular. The taste, being often capricious, craves out of the way articles; or, the patient not finding that gratification from the use of articles, which had been anticipated, goes in quest of something else; while, on the other hand, friends and nurses generally, too anxious to replete rapidly, or to amuse a friend by acts of kindness, send in articles, each anxious to meet the wants and taste of the patient, however capricious it may be. Lastly, we have made this point our principal one for years past, for we have long thought that more injury arises from this admixture of *meat* and drink, than from the quality or quantity of single articles. We would not have any one forget, however, that there are three cardinal points—*simplicity—reasonable quantity—and individually, articles suited to the condition present.* Let each one look well to these points or his patients will frequently relapse, and relapsing, he may lose all the credit fairly attributable to his skill in the disease; for, too often these relapses come marked with high morbid derangement, and patients are brought to the brink of the grave, or entombed in its cavern, victims to indiscretion, or something worse.

Our author sends forth his anathemas against animal jelly. We too think they are often greatly abused, and owing to a mistaken notion of their being light food; whereas, they contain much nutriment in small bulk—nevertheless, we think, the author has carried his objections too far; they must be used with great caution—that is well-timed, or they will do much mischief.

*Of Fever in general.*—We find in the work before us, a chapter of upwards of twenty pages devoted to the subject of fever in general. We recognize in this evidence of practical skill, but still we see nothing that claims especial attention, over what has been written perhaps hundreds of times. The student, to be sure, may as well read these common place remarks, in the work of doctor Dewees, as any where else.

We would, however, offer our protest against the plan which has been adopted in the chapter under examination, viz: of treating of aperients—bleeding—sweating—purgings—blisters the period of the diseases, or state of the arterial system; of the parts to which they are to be applied—of the duration of their application—of the peculiarities of the patient as regards their remote effect—tonics.

This chapter reminds us of the saying, that the "cart is put before the horse." Thus our author without having in any sufficient manner described any form of fever, proceeds to give the treatment, which by a little address in the application, may be made to suit every form or variety of fever to which the human body is subject. If these *general observations, with particular treatment*, are offered as a guide to the young and inexperienced, we say they are obviously defective; since they will not instruct sufficiently in the estimate of the phenomena of fever, and, therefore, the inexperienced must turn to other authority; or, if they are offered to those more advanced in practical lore, there is nothing to compensate for turning over the pages to read the minutiae of practical detail, which pass in review before the practitioner almost every day of his life. We are advocates of the greatest possible simplicity, both in theory and practice, but this wholesale way of imparting knowledge, does not meet our views. However little we are willing to prescribe for the name of a disease, still we short-sighted mortals are creatures of signs; and, before the student of medicine is prepared to generalize safely, he should be well acquainted with the several forms of fever, before he can profit by general rules. Let him here, as in most other affairs of human knowledge, first learn the rudiments, and afterwards enter upon combinations. If general observations on practice are to be allowed, they should succeed, and not precede, the symptomatology of individual kinds, or forms of fever.

At page 73, vol. 1, we observe some observations which seem to require a passing notice—"fevers of every denomination, be their type what they may, frequently have sickness of stomach as an attendant. This nausea, or it may amount occasionally to vomiting, is always attributed to a *foul stomach*, and in their opinion, decidedly calls for an emetic. This nine times out of ten is an error; for this sickness, &c. only points out a state of irritation of this organ; and so far from its being relieved by an emetic, is almost certainly aggravated by it. In such cases, cathartic medicines of a moderately active kind should first be given; and if these do not afford relief, try, second, the direct application of such remedies as are known for their efficacy in such cases; and third, if these fail, counter-irritants must be used."

We agree with our author, that in a great majority of cases of nausea at the onset of fever, we can afford relief by cathartic medicine; and that vomits are not often proper, but much will depend upon the habits of the patient, the character of the disease as related or not, to some epidemic disease. In some athletic men, who apply early for advice, in times of epidemics of the milder, or typhus grades, disease will be cut off, with almost unerring certainty, by an emetic, as we have sometimes seen, and as has been reported by writers of the first authority. This practice will be more or less successful, as the disease shall be more or less inclined to, or partaking of the intermittent form.

We are advised to give eight grains of calomel with a little sugar, "in fevers of every denomination, be their type what they may," provided their be nausea or vomiting—to be followed, by "two or three tea-spoonfuls of calcined magnesia," or "an enema"—it is true the calomel seems to be allowed in "small portions," repeated at short intervals, but when we come to the article fever, we find these repetitions at intervals of a whole day, with reduced doses. When we look over this vastly extended country, and reflect upon our observations upon disease for thirty years; and when we read the faithful, (for how can we think them otherwise,) and accurate observations of gentlemen of the first distinction, as practitioners, in almost every part of our country; when we see the triumph which Rush gained throughout the world for his successful employment of active depletion in Philadelphia; we are ready to be vexed, nay, we call Heaven to witness the anguish with which we reflect upon the amount of mischief which is likely to be spread over this happy country, by the dissemination and propagation of erroneous theory and practice, by men pre-eminent in the profession of medicine. To those who are not sufficiently confirmed in the sounder practice, so generally prevalent among us, this feeble practice may prove a destroying engine, and must slay its thousands—to trust to eight grain doses of calomel, a little magnesia, a little gum-water; or gum-water medicated, with a little borax or mint-water; and a few leeches, "in fever, of every denomination, be their type what they may," is replete with imbecility; and beset with the most alarming dangers. Let me with a warning voice, for we speak from experience, admonish the inexperienced how they tamper with human life, in measuring out "milk and water," and "gum-water," in diseases of high action, in their onset, (and nausea is no less common at this stage than later.) If the forming state of fever is thus trifled with, you

may never have it in your power to recall the favorable moments, which you may have lost, in washing your patient's stomach with milk and water, while a morbid poison lurks within, and all the secretory apparatus, particularly the liver, are shut up, and as inaccessible to these weak agents, as is a bird on the tree top to the sloth at its root.

"Should neither of these answer, (says our author) we must have recourse to a third set of remedies; and a few ounces of blood drawn from the region of the stomach, by leeches, will be found to be of decided use. This may, if necessary, be followed or preceded by a plaster of the flour of mustard, or vinegar, to the stomach, until it tingle the skin smartly; or this may be followed by a blister after depletion, if the vomiting be obstinate."

We here have not only bleeding by leeches, classed with counter-irritants, but the latter may be used before or after the latter, being remedies of one class, or "a third set of remedies"—no matter how they are blended. We think further comment unnecessary on this point, but if bloodletting, and mustard, are remedies exerting similar influence upon any part of the body, we knew nothing of either.

We would sincerely hope, there is not one practitioner, now settled in business, with so little experience among diseases, of most of the interior of our country, as to permit himself to be persuaded, that he may thus venture to trifle with mustard and vinegar, and taking "a few ounces of blood" by leeches, in the treatment of bilious fever, whether there be nausea or not; or whether or no, he add to this the lilliputian practice of gum-water, milk and water, &c. &c. &c.

One of the items which is pretty fully treated of by doctor Dewees, under the "head of fever in general," is that of bleeding. We find some remarks upon this subject which we fully approve in their practical bearings, but observe some degree of discrepancy with other parts of the new practice of physic.—The employment of this valuable remedy, (bloodletting,) in the commencement of fevers, is now so universal, that it has almost become a domestic remedy, and the number of cases in which it is useful, nay, essential, is so great that we may look upon it as almost indispensable. The prejudices which were so long entertained against it, have given place to a compliance, which experience has shown, it merited; and it is now in such general acceptance, that it is very frequently the initiatory remedy. The cases of fever in which this mode of depletion is inadmissible, are so few, that we find almost a difficulty in pointing them out—at least in the commencement; and it is to this period, we are

always presumed to refer, whenever we speak of remedies in general, unless the contrary is expressly declared. The cases for the proscription of the lancet are so few as to constitute only rare exceptions."

How does this strong language quadrate with that of the gum water, leeches, &c. spoken of in the paragraph preceding the one just quoted, and said to be applicable to *fevers of every denomination*, &c. And how does it square with the quotation in the title page, quoted from M. Broussais, in which we are told, that this is an age in which we are prodigal in the use of stimulants; and in which Broussais is seen to hold a lamentation over the fears which were in his way about debility, by which he was enthralled, till he ventured, as it were, *de novo* from the beaten track, and marked out a new one? Surely doctor Dewees will not impute to Broussais the merit of having brought about this salutary change in favor of bleeding in this country. It is so common as to have become "almost a domestic remedy." Of this fact we are well aware, and cannot but feel surprised, that so much credit is given generally, throughout the new practice of medicine, to M. Broussais, and not to the immortal inventor, and successful propagator, of this truly valuable remedy in acute disease.

We do not by any means agree with our author in his employment of bloodletting, "in the commencement" only of fever, and we are expressly told, that this is the period always meant where the contrary is not specified. Who is there with ten or twenty years experience in the profession, that has not seen the most marked advantages from bleeding in the protracted state of fever. We have frequently been in doubt as to the propriety of the employment of this remedy, in protracted, or neglected, or mal-treated cases of fever, and we have often tested the system, by the exhibition of a little laudanum, or this article with spirits of nitre—whenever we have found increased excitement from a moderate dose or two of laudanum, we have obtained the most decided benefit from the use of the lancet. But independent of thus testing the system, we frequently find fevers—intermittents, remittents, and continued, in which the most marked advantages are obtained from a judicious use of the lancet, that is, using it according to the state of the system present, without regard to the duration of the disease. In forming a judgment in such a case, we must be governed by the same rules, which govern in other cases—the nature of the disease, the habits of the patient, the season, the previous treatment, &c. are a few of the many circumstances, which we must cite to our aid.



Doctor Dewees goes on to make some judicious remarks upon the proper time for bleeding, the extent to which it should be carried, &c. in all which, we recognise the principles of Rush in full play.

We have now completed our analysis of the more elementary part of the new practice of physic. So far as we have had an opportunity of examining the work, we have been led to believe, that our analysis embraces most of the general principles connected with the first volume; and as we do not discover any thing remarkable in the practical details, we shall here suspend our analysis for the present. The author of the practice of physic before us, has incorporated more or less of the Broussaian doctrines, in his observations upon particular forms of fever—these, we think, call for a close scrutiny; and is a subject of so much importance as to require a patient, candid, and fearless criticism.

We are among those who would glory in the successful completion of a standard American practice of physic, but we regret to say, the work before us is not destined to hold such an elevation, so long as its practical details are made dependent upon the Broussaian doctrine, as regards fevers generally in the United States. We are subject throughout most of our country to diseases of high excitement; also, to adynamic fevers, both of them in their sporadic and epidemic forms—In the former, the feeble and simple practice of Broussais, founded on the notion of simple gastro-enteritis, is replete with the extremest danger, while the latter, agreeable to doctor Dewees' own showing, is not dependent upon the phlogosed state of the stomach as its cause.

We are pleased to say, that the book under review contains much valuable information; and less than this could not have been expected of its talented author, but we must here repeat, that like most other American works, it has been gotten up in too much haste—a reprint may enable the author to remove much of the force of this objection; but, the erroneous philosophy must be removed before the work will suit our hemisphere—and so closely are the French doctrines of fever incorporated with the body of the work, that we can scarcely expect the author ever to amend, but by a rejection of it.

We have been induced to believe that this work was written at an unfortunate period—had doctor Dewees written some years since before he was captivated, or we would rather say before his judgment was *captured* by Broussais, he would have written an American book. And it can scarcely be doubted, but that

he would have written more conformably to the nature, or character of our diseases. There appears to be a special reason for the author's so decidedly espousing the principles of Broussais. Some of the late febrile epidemics of Philadelphia have been of a mild character, and hence it was that doctor Jackson, as he informs us, in the *Journal of the American Medical Sciences*, found the mild treatment recommended by the French well suited to the epidemic fever of Philadelphia. But we would admonish the younger part of the profession to be aware how they suffer themselves to be led to believe, that this mode of practice will generally suit our diseases.

We believe that no man is more sensible of the important truth, which we have just hinted at, than doctor Dewees, and yet, he has failed to point it out and insist on it with a degree of attention which its importance demands; we mean the fact, that no two epidemics are alike—that consequently, each has its appropriate treatment. Some will admit the plan of Broussais—some will require little else than a little evacuation, and repletion by aliment, as practised so successfully by doctor Calhoun; while far greater number, being diseases of *strength*, require a herculean practice to overcome them—**THEY ARE MONSTERS WHICH MUST BE STRANGLERD IN THE BIRTH!**

*Selecta with Remarks.*

## MEDICAL.

*Hospital Facts and Observations Illustrative of the Efficacy of the New Remedies, Strychnia, Brucia, Acetate of Morphia, Veratria, Iodine, &c. in several Morbid Conditions of the System; with a Comparative View of the Treatment of Cholera, and some Cases of Diabetes, &c.* By JAMES LOMAX BARDSLEY, M. D. Physician to the Manchester Infirmary, &c. &c. London, 8vo. pp. 224, 1829. Burgess and Hill, Great Windmill street.

*Taken from the London Medico-Chirurgical Review.*

No. 1. Candor compels us to acknowledge, that we have no experience in the employment of the two first articles named in the above list of "new remedies." Nor has our employment of the others led us to any positive conclusions, as to their efficacy as single or principal remedies, in the successful treatment of any disease. We have, however, sometimes had proof of their beneficial influence, at least in the mitigation of symptoms of various maladies.

The observations and facts detailed by doctor Bardsley, are presented to us in so imposing an aspect, that we have been induced to think, that we shall be usefully employed in extending the information afforded in the paper under notice, to our readers.

We have not seen the work of doctor Bardsley, but are favorably prepossessed in favor of the entire work, from the specimen which we have seen, favored as it is by the good opinion, and decided approbation of the able reviewer, who has *passed* upon its merits.

Every man extensively engaged in the profession must be sensible of the importance of any thing which is calculated to throw light upon the subject of palsy; whether it relate to the nature of the disease, or to its treatment. Of the former we have nothing in particular to say at this time, but nothing could be more cheering to the medical philanthropist than the fact, that a remedy has been discovered which promises to cure a considerable majority of cases of paralysis, since we are all aware of the intractable nature of this disease, under the employment of remedies relied on, prior to the introduction into practice of the strychnine by our author.

We shall not fail, whenever suitable opportunity is presented, to test the practice of our author; and should any of our correspondents precede us in giving a trial to the "new remedy" in paralysis, we shall be truly thankful for such information as may result from such trial, be it for or against the remedy now before us.

Our opportunity in hospital practice for several years, has taught us to look upon "chronic diarrhea" with fearful forebodings. We have seen many cases resist all the remedies known in regular practice, together with various nostrums as dernier resources. These were mostly, perhaps, always cases which had been contracted in the West Indies, by seafaring men. We have seen cases after cases gradually progress from week to week; and after months of suffering the patients were worn down by hectic, and wasting discharges. From time to time, various articles as well of food, and drink, as medicines, would bring about a respite; and, the patient relieved from suffering would be seen to regain a little accession of muscular power, and his spirits become more buoyant, but no sooner was any thing like repletion clearly visible, than we had a recurrence of the wasting enemy. This was truly a consumption of the bowels. We would gladly have availed ourselves of the remedy suggested by doctor Bardsley under such circumstances.

It is also well known, that "amenorrhea" is sometimes a very obstinate affection. All the usual remedies are often used with faithful perseverance without success. If doctor Bardaley has added a valuable additional article to our list, in this disease of the female, no one can be insensible to so interesting a fact.

Dr. Bardaley appears to be a modest, intelligent, observant, and candid physician, who has had ample field for testing and comparing the effects of various remedies in various diseases, during his official duties at public institutions. In recording and publishing the results of his experience, he does the utmost in his power to further the interests of humanity, by increasing our knowledge or correcting our errors. Conscious of the mischief which has flowed, and which daily flows from the blazoning forth of successful cases, leaving the unsuccessful in the shade, doctor Bardaley has made a point of detailing the unfavorable as well as the favorable cases treated more especially by that important class of substances the *VEGETABLE ALKALIES*, with the view of determining their real therapeutic properties. He has also made observations on the treatment of *CHOLERA* and *DIABETES* by different remedies—diseases which appear to be very common at Manchester.

We shall glance at the several sections of the work, in which the author's experience is detailed.

I. *Strychnia in Paralysis*. It appears from the experiments of Desportes, Magendie, Delile, Orfila, and others, that the nux vomica does not occasion any organic lesion in the animal frame, though it has a direct action upon the nervous system, causing death from asphyxia produced by the immobility of the chest during the violence of the tetanic spasms of the thoracic and abdominal muscles. Fouquier was led to make trial of the strychnia in several cases of paralysis of the lower extremities, and published his successful results in that disease; and many others have employed the remedy with various, if not doubtful issues. Dr. B. details 23 cases of paralysis treated with strychnine, and gives a tabular view of twelve more. We shall glance at some of these in a condensed form.

*Case 1.* A female aged 30, had entirely lost the power of the left side, with diminished sensibility, occasional head-ach and vertigo—articulation impaired—urine and faces passed involuntarily—face drawn a little to one side—pulse feeble at 86—countenance pallid. The attack had occurred three months previously, shortly after parturition, and had gradually increased. Attributed the complaint to cold and over fatigue when far advanced in pregnancy. Leeches, blisters, and aperients having been premised, the strychnine was exhibited in doses of the twelfth part of a grain twice a day, and afterwards increased in frequency and quantity. It was more than three weeks before she began to feel the influence of the medicine, in slight pricklings of the paralyzed limbs. The sensation began to revive—smart convulsive twitchings occurred—motion improved—she had some command over the bladder and rectum—and finally recovered completely. The strychnine amounted to a grain twice a day, before the cure was affected.

"REMARKS. In this case the strychnia was very serviceable, and indeed, the patient's recovery was fairly attributable to a persevering use of this active remedy. The twelfth of a grain of the alkali was first exhibited twice a day, and this proportion was increased at regular intervals to the extent of one grain twice a day; but it was found that the patient could only take half a grain thrice in the day without experiencing a slight degree of inconvenience. The appetite was much improved during its exhibition."

**Case 2.** This was a man aged 31 years, who, after being troubled with pain in the head for some months, lost the entire power of the lower extremities, their sensibility remaining unimpaired. The power over the sphincters was also lost—the flesh was reduced—the complaint of three months duration—and the cause ascribed to fatigue and cold. Cupping and purging having been premised, the strychnine was exhibited, beginning with the fourth part of a grain three times a day, and gradually increasing the dose to half a grain three times a day, when convulsive twitchings were much complained of, but unaccompanied by vertigo or other distressing symptoms. The dose was ultimately augmented to double the above quantity, but severe pain at the scrobiculus cordis was the consequence, with violent spasmodic action of the muscles of the thorax and lower extremities, requiring powerful stimulants. Long and repeated trials were made of the medicine, but no benefit whatever was derived from its administration, and the patient was ultimately discharged uncured. The next case we shall quote in the words of the author.

**"CASE 3.** SAMUEL OGDEN, aged 46, admitted 21st June, 1824. He has been paralytic for more than four months, having lost the entire power of the limbs of the right half of the body; and the muscles of that side have not recovered their former bulk and plumpness. He has been addicted to great irregularities in his general mode of living. Complains of pain in front of the head accompanied by vertigo. Speech rather inarticulate. Memory slightly impaired. Urine and feces are both involuntarily and unconsciously discharged. Appetite indifferent. Pulse feeble. Countenance somewhat sunk. Six leeches were ordered to each temple, and a blister to the nape of the neck. To take three ounces of the *Mistura Scenæ Composita* immediately, and to repeat the dose every three hours until the bowels have been freely evacuated. 23d. Head relieved by leeches and blister. Several copious stools procured by a second dose of the purging mixture. To commence with one-twelfth of a grain of strychnia in the form of a pill twice a day. 26th. Head continues free from pain. Bowels constipated. Paralytic parts remain in the same state. Dose of strychnia to be increased to one-sixth of a grain three times a day, and the purging draught to be exhibited on alternate mornings. 29th. The only effect of the medicine as yet perceptible is an occasional sensation of heat along the spine. Bowels kept regular by draught. Dose of strychnia to be increased to the one-fourth part of a grain three times a day. 4th July. Slight convulsive twitchings of the paralyzed members. Head remains free from uneasiness. Thinks he possesses a little more feeling in the bladder and rectum. Dose of strychnia to be increased to half a grain twice in the day. Slight tetanic symptoms have been present after each dose of the medicine, but they are by no means alarming, or of long continuance. There appears to be some improvement in the affected limbs, for he can now raise both the arm and leg with a little assistance, which he was quite incapable of effecting on his admission. This circumstance affords him great satisfaction, and inspires him with hopes of recovery. Half grain pill to be taken three times a day. 7th. This quantity was more than the patient could bear, as it produced vertigo, stupor, pain at scrobiculus cordis, irregular convulsive startings both of the sound and paralyzed parts, tendency to syncope, weak pulse, and extreme debility. The pill was therefore ordered to be given only twice a day. He is now capable of gently moving both the affected arm and leg, and of retaining, during the day, his urine and feces. To continue the pills. 10th. The diseased side improves. To persevere with the pills. 13th. The patient can now move both the arm and leg in several directions, and also support himself in the upright posture, by the help of a stick in the left hand. To have four ounces of

wine daily and to continue the pills. 17th. Yesterday, with the assistance of crutches, he walked more than once across the ward, and he has acquired almost a full command over the muscles of the rectum and bladder. Pills to be continued. Wine to be increased to eight ounces in the day. The pills were regularly taken until the 1st of August, and the patient's amendment appears, from the last report up to this period, to have been progressive. On his discharge he could walk from one end of the large ward to the other by the aid only of a small stick, and the functions of the bladder and rectum were completely restored.

**REMARKS.** This case affords evidence of the remedial efficacy of strychnia in palsy, and points out in a striking manner the *peculiar* action of the alkali upon the paralytic members, since no other remedies, with the exception of a few leeches to the temples, a blister to the nape of the neck, and occasional doses of aperient medicine (on the patient's first admission) were employed. I had my doubts respecting the propriety of administering the alkali in this instance, as there was some reason to fear, from the previous intemperate habits of Ogden, that the hemiplegia was owing to disorganization of the brain; hence I adopted the precaution of relieving the vessels of the head before I commenced with the use of the strychnia. One grain during the day was as much as he could take with safety, for when the dose was increased to a grain and a half daily, very unpleasant effects followed. It would have been improper to have pushed the remedy beyond the limits pointed out by the symptoms. It may be well to notice the *sensation of heat along the course of the spine* more than once experienced by the patient, and first mentioned by himself, without the question having ever been put to him, as it tends to confirm the opinion before stated, respecting the peculiar action of the strychnia upon the spinal chord."

**Case 4.** This was a spinner, aged 29 years, who, six months previously was seized with loss of power in the lower extremities after bathing whilst the body was much heated with exercise. At the time of admission he was incapable of motion without the aid of crutches, and passed his urine and feces involuntarily. The spine was free from pain—strength much reduced—appetite bad. The strychnine, in the dose of one-sixth of a grain three times a day, was exhibited, and augmented to a quarter of a grain every four hours, when severe convulsive twitchings took place in the affected limbs. In less than a month he became capable of retaining both his urine and feces, and of walking from one end of the ward to the other by the aid of a small stick. He was entirely cured.

**Case 5.** Sarah Hilton, aged 36 years, was admitted on the 7th September. This woman had suddenly lost the power of the right side of the body. The attack was preceded by severe pain at the crown of the head, drowsiness, faulty articulation, &c. The intellectual faculties were impaired, as was the power over the sphincters. She was ordered five grains of calomel, followed by a saline aperient, which were repeated, and then the strychnine was exhibited, in the dose of a quarter of a grain every six hours. This was gradually increased till violent twitchings of the paralytic parts ensued, attended by nausea and dyspnœa. These symptoms were relieved by plenty of brandy and water. The medicine was soon afterwards resumed and continued. The power of motion in the paralyzed parts soon began to return—the amendment was rapid—and in about seven weeks the cure was complete.

Passing over a case or two, we shall extract the following without abbreviation.

**CASE 6.** ROBERT HOBSON, 38 years of age, finisher, admitted an in-patient, October 6, 1827.

"This is a case of paraplegia, the patient having lost the power over the inferior extremities, rectum, and bladder. He states that he first perceived about four months ago a weakness in his legs, rendering it necessary for him to use considerable effort to drag them along. This debility gradually increased, until at length he became altogether incapable of moving the lower limbs. He has no feeling in them. Head free from pain or giddiness. Pulse regular, appetite impaired. Being desirous of putting the individual efficacy of the strychnia to the test, I commenced with the exhibition of the alkali in the proportion of a sixth of a grain twice daily, without previously employing internal or local remedies of any kind October 10th. No change. Dose to be increased to the fourth of a grain three times in the day. 20th. He considers himself better, having obtained a slight command over the sphincters of the bladder and rectum. On the 14th, he first experienced involuntary twitchings in the inferior extremities, which have been continued at intervals up to the present time. To take half a grain of the alkali twice daily. 28th. He is in excellent spirits, owing to the benefit he has derived from the pills. He can raise the lower limbs to some height from the bed, and also retain at pleasure both his urine and feces. During the last week, the twitchings have been rather severe, but not painfully so. He is very desirous of persevering with the pills. To continue. November 7th. Since the last report, the patient has been allowed to sit up for several hours during the day. He is surprisingly improved, being able to walk without the aid of a stick from one end of the long ward to the other. Appetite good. Bowels regular. Warmth and sensibility of inferior extremities natural. Half grain pill to be taken three times daily. 26th. The additional half grain excited for some days powerful twitchings in the legs and thighs, but in the course of a week or less they became not more severe than was occasioned by half a grain of the alkali taken twice in the day. He is now capable of walking as well as at any former period of his life, and his general health is excellent. It is impossible to describe the gratitude which this patient felt for his restoration to health. He was ordered to be discharged *cured* at the first meeting of the weekly board."

Our author next states the effects of the strychnia in thirteen cases of paralysis; but, in order to avoid tiresome details of history, he merely mentions the age of the patient, duration of the disease, time of admission, dose of alkali employed, length of time it was continued, and the result. This abbreviation we shall here introduce, as it harmonizes with our own plan of brevity.

"CASE XI. August 4th, 1825, ELIZABETH TAYLOR, aged 38.

"Has been paralytic on the right side for two months. Attack sudden, accompanied with pain in the head. To commence with the eighth of a grain of strychnia twice daily. Gradually increased to half a grain twice in the day. Continued this dose for three months. Discharged cured.

"CASE XII. September 2d, 1825, SARAH WYATT, aged 53. •

"Ill six months. Hemiplegia of right side. Fourth of a grain of strychnia to be taken twice daily. Increased to half a grain, at the same intervals. Continued for four months. Discharged relieved.

"CASE XIII. October 4th, 1825, WILLIAM JOHNSON, aged 16.

"Paraplegia of six weeks standing. Cause of disease unknown. Sixth of a grain of alkali to be taken twice in the day. Increased to the fourth of a grain. Persevered in its use for two months. Discharged cured.

"CASE XIV. December 30th, 1825, THOMAS GRIFFITHS, aged 61.

"About two months ago was seized with hemiplegia of the left side. Former habits intemperate. Head painful. Ten leeches to be applied to

temples. Pain in the head removed by leeches. Sixth of a grain of strychnia to be given twice in the day. Increased to half a grain. Continued three months. Discharged relieved.

"CASE XV. January 4th, 1826, ANN LLOYD, aged 42.

"Has been paralytic on the left side for more than six months. Commenced with the eighth of a grain of alkali. Increased to half a grain three times daily. Continued four months. Discharged cured.

"CASE XVI. January 15th, 1826, THOMAS KNOTT, aged 50.

"Hemiplegia of left side. Experienced the attack about twelve months ago. Sixth of a grain of strychnia to be taken each morning and evening. Increased to a grain and a half during the day. Persevered in the use of the remedy with great regularity for three months. Discharged much relieved.

"CASE XVII. April 2d, 1826, THOMAS OGDEN, aged 40.

"Has laboured under paralysis of right side for two months. To commence with the sixth of a grain of alkali twice in the day. Increased to half a grain. Continued two months. Discharged cured.

"CASE XVIII. September 3d, 1826, JOHN LEVENS, aged 46.

"Paraplegia of three months continuance, induced by a severe fall upon the sacrum. Sixth of a grain of strychnia twice daily. Increased to half a grain. Remained in the hospital two months. Discharged cured.

"CASE XIX. August 19th, 1826, MARY GRADY, aged 62.

"Lost the power of right side four months ago. Fourth of a grain of alkali twice daily. Increased to half a grain. Three months trial of the medicine. Discharged relieved.

"CASE XX. October 6, 1826, WILLIAM SICKSMITH, aged 39.

"Paralytic on right side five months. Fourth of a grain of strychnia twice daily. Increased to a grain and a half in the course of a day. Discharged cured in less than ten weeks from the time of admission."

"CASE XXI. December 28th, 1826, — JONES, aged 33.

"Lost power of right arm about year and a half ago. Eighth of a grain of strychnia three times in the day. Gradually increased to half a grain twice daily. Two months trial of alkali. Discharged cured.

"CASE XXII. February 4th, 1827, JAMES WILSON, aged 29.

"Attacked suddenly in March last with paraplegia after exposure to wet and cold. Dose of strychnia to be increased from sixth of a grain to half a grain twice daily. Used this remedy for one month. Discharged cured.

"CASE XXIII. November 4th, 1827, JAMES TURNER, 42 years of age.

"Has laboured under hemiplegia of left side for five weeks. Commenced with the sixth of a grain twice daily. Dose increased to half a grain. Remained two months in the hospital. Discharged cured.

"The following table will also shew the results of the exhibition of strychnia in *twelve* more cases of paralysis.

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\* "This man since experienced an attack of paraplegia, and is now using the strychnia (at his own request) with advantage. March 10th, 1838."



No.	Names.	Age.	Duration of complaint.	Disease.	Result.
24	James Faris, I. P.*	28	3 months.	Hemiplegia of the left side.	Cured.
25	Charles Walker, I. P.	44	6 months.	Ditto.	Much relieved.
26	Robert Ashton, H. P.	54	2 years.	Paraplegia.	Slightly relieved.
27	Margaret Lewis, O. P.	17	2 months.	Ditto.	Cured.
28	Denis Hagan, H. P.	44	6 weeks.	Hemiplegia of right side.	Much relieved.
29	Henry Black, I. P.	23	3 weeks.	Paraplegia from a fall.	Cured.
30	John Allensworth, O. P.	62	12 months.	Hemiplegia of right side.	No benefit.
31	Isabella Gale, I. P.	33	3 months.	Ditto.	Left the house.
32	David Davis, H. P.	51	3 months.	Hemiplegia of left side.	Much relieved.
33	Jane Shaw, H. P.	19	4 weeks.	Paraplegia from cold.	Cured.
34	Owen Morris, O. P.	54	7 months.	Hemiplegia of left side.	Relieved.
35	Jacob Long, O. P.	49	12 months.	Paraplegia.	Cured.

### Observations.

Our author thinks and we agree with him, that the foregoing recital is sufficient to prove that strychnia excites a very powerful influence on the system, and that it is entitled to rank as a valuable remedy in the *materia medica*. It was employed in some cases without benefit, in others with partial advantage—but, in the majority with complete success. Hence, he conceives, it may justly be considered an *efficacious*, though not a certain remedy in this affection. When cerebral disorganization has once taken place, it is, of course, in vain to expect a cure from any medicine. "It is in such cases of paralysis as seem to arise from diminished nervous excitement, that the strychnia is particularly indicated."

"It may be stated here, as a rule of guidance, that whenever hemiplegia supervenes to an apoplectic seizure in persons of a plethoric habit, it is proper to employ bleeding, purging and the ordinary antiphlogistic treatment, before resorting to the use of the strychnia. When the vessels of the head have been freely unloaded, and the quantity and force of the circulating fluid diminished by the above means, there can be little objection to a *cautious* and prudent trial of this remedy. Generally speaking, the strychnia is likely to prove more serviceable in paraplegia, unconnected with spinal disease, than in hemiplegia; though I feel confident, that it will not unfrequently be found an important remedial agent even in hemiplegic paralysis."

\* "The abbreviations, I. P., H. P., and O. P., denote in-patients, home-patients, and out-patients."

Dr. B. has not tried the strychnine on children, nor would he advise the attempt. The first effects of the medicine in every case, were convulsive twitchings of the paralytic members, and no benefit was derived until this condition of the parts had been produced and continued for some time.— This appears to have been the case with iodine in the hands of that very intelligent and candid physician, doctor Manson. In doctor Alderson's experiments, too, with the rhus toxicodendron in paralysis, twitchings and tinglings, in the paralytic members appear to have been the first steps towards recovery.—Strychnia does not appear to impair the energy of the stomach, but is rather serviceable in promoting appetite and digestion. Dr. B. recommends the practitioner to commence with not more than the eighth of a grain of strychnine twice in the 24 hours, which quantity is to be gradually increased to a sixth, fourth, or even a half a grain at the same intervals. Any unpleasant symptoms should be the signal for suspending the remedy for a time, when it is to be renewed in slowly augmented doses. "By attention to these points (says our author) although no benefit may accrue from the strychnine, we may be sure that no injury will attend its exhibition." He generally gave it in a pill, with a little conserve of roses.

II. *Strychnia in Chronic Diarrhea.* Numerous instances of chronic diarrhoea occur among the out-patients of the Manchester Infirmary, some of which obstinately resist every kind of treatment. Under such circumstances, our author was induced to try the strychnia, "and it proved a *safe and effectual* remedy." To shew the foundation for this assertion, doctor B. has detailed several cases in illustration. Since he had prepared those pages for the press, he finds that Recamier had also exhibited the alcoholic extract of nux vomica with complete success. Dr. Rummel has also employed strychnia with advantage in chronic blenorrhoea of the rectum. A single case will suffice as an example.

"CASE III. JOHN NEARY, 55 years of age, admitted an out-patient, March 16th, 1826.

"He had been formerly addicted to the intemperate use of spirituous liquors, but of late years his habits have been regular and sober. He complained of a frequent desire to go to stool, having not less than five or six evacuations daily, and his strength had declined during the last month very rapidly. His appetite was impaired, and he had copious perspirations in the night. He attributed his complaint to exposure to wet and cold in January last. He had tried several remedies, but without benefit. The ordinary astringents were unsuccessfully administered. I then commenced with the strychnia, which succeeded as the reports will show, in speedily restoring the patient's health. He began on the 18th, with the sixth of a grain of the alkali, night and morning, which was increased to the fourth of a grain three times a day. On the 10th of April he had not more than two stools daily.—His appetite was better and he had gained strength. He continued this plan of treatment until the 24th when he was discharged cured. I saw the man about a year afterwards, and he informed me that he had not suffered any relapse of his disorder."

In his remarks on the cases detailed, doctor B. observes, that he does not consider the strychnia a suitable remedy in those instances of diarrhoea which depend upon an evident inflammation of the mucous membrane of the intestines. He particularly recommends the medicine in cases of a *chronic kind*, occurring in persons somewhat advanced in life, and of feeble constitution.

III. *Strychnia in Amenorrhoea.* This complaint is the source of many others of a very troublesome character, and is, moreover, one of very difficult management. It is, therefore, of importance to be able to name any new re-

medy which may be found occasionally serviceable in promoting a regular and natural flow of the catamenia.

"Previously to my experiments with the strychnia in this disease, I had been in the habit of employing aloes more extensively than any other medicine; and I can add my testimony to that of the venerable doctor Hamilton, in favor of the utility of purgatives in exciting the action of the uterine vessels. In many cases, I have succeeded in obtaining a renewal of the menstrual discharge, by a steady but active administration of the aloetic pill *alone*."

We shall glance at some of the cases.

*Case. 1.* Phæbe Love, 33 years of age, unmarried, June 4th. She stated that she had not menstruated for five months past, the obstruction being attributed to cold. She appeared languid and weak—appetite impaired—countenance pallid—bowels costive. These last being brought into a proper state by aperients, the sixth of grain of strychnine was administered three times a day. On the 16th June the dose was increased, there being no perceptible effect produced. The report of the 12th of July states that the general health is much improved—that she had felt some painful sensations in the hypogastric region during the last few days. On the 24th the menses appeared. The discharge continued regular afterwards, and she is now the mother of two children. We are unable to state any more of the cases, but shall present the following tabular view of eight cases not contained among the detailed accounts.

No.	NAME.	Age.	Duration of Complaints.	Result.
1	Mary Holfroys	44	9 months	Cured.
2	Margaret Cain	29	5 months	Ditto.
3	Sarah Hooley	24	12 months	Ditto.
4	Jane Marsden	40	4 months	Ditto.
5	Mary Ferguson	19	6 months	Ditto.
6	Elizabeth M'Avoy	35	Ditto	Relieved.
7	Jane Wragg	38	18 months	Cured.
8	Elizabeth Corr	29	2 years	Relieved.

The cases appear to our author sufficient to shew the remedial virtue of strychnine in some instances of amenorrhœa, owing, he thinks, to the power which the alkali possesses of stimulating the vessels of the uterus, and improving the tone and vigor of the system. Doctor B. advises the conjoint exhibition of mild laxatives with the alkali in this affection, when the bowels, as is most commonly the case, are constipated.

"Such are the results of my experiments with strychnia, which are calculated to set forth the *real* claims of this alkali to the notice of the profession, as a remedy in certain diseased conditions of the system. I think that I may venture to draw from them the two following conclusions. First, that strychnia, *cautiously administered*, is a safe and useful remedy in paralysis. Secondly, that it will *occasionally* be found serviceable in *chronic diarrœa* and *amenorrhœa*."

Doctor B. has appended several cases of paralysis treated by brucia, an alkali obtained also from the nux vomica, and weaker than the strychnine in the proportion of one to twelve. Ten cases are selected from among others, to show the powers of the brucia. His experience leads him to recommend it as a valuable remedy in paralysis—the action being analogous to that of strychnine, but less powerful—"hence," says he, "it is a preferable remedy in paralytic attacks, accompanied with much cerebral dis-

turbance." It is prudent to commence with a dose of a grain twice a day, which is to be cautiously increased to two grains three or four times a day. Unless a marked advantage accrue from the administration of the remedy in the course of five or six weeks, it ought to be laid aside.

This brings us to about the middle of the volume, and as the remaining subjects of discussion are totally unconnected with that which we have now concluded, we shall defer our analysis of those topics till our next number. By this procedure we do not break the thread of our narrative, nor the unity of any investigation entered into by the intelligent author of the work under review.

*On Functional Disorders of the Large Bowels, and on certain Diseases which they often induce.* By JAMES ANNESLEY, Esq.

*Taken from the Medico-chirurgical Review of London.*

It is our opinion that few medical readers can be unacquainted with the high pretensions and established reputation of James Annesley, Esq. Among the important subjects which he has treated of, we are disposed, especially, to awaken attention to his observations on the subject of remora of the bowels.

We have been led to notice this article, as well from its own peculiar importance, as from the information derived from its investigation, which is applicable to other diseases, or, rather, perhaps, to certain speculations upon supposed disease of the intestinal tube.

Our observations do not lead us to believe that the affection noticed by our author is very common in this country, in its aggravated form, yet, we have seen enough to satisfy us of the certainty of such affections, as well in man as in some of the brute tribes. But who can be insensible to the irritation of the intestinal tube, from more or less impaction of retained feces. You need seldom ask the valetudinarian whether he is disposed to constipation—you may generally venture to tell him that such is the fact. We would not be understood to mean that our author is treating here of constipation, but if we know that constipation is so common a source of dyspeptic, hypochondriac, and various neuralgic affections, we can have no hesitancy in acknowledging the accuracy of the views presented in the work before us.

If we can credit the opinions of our author, we shall be prepared to view the gastro-enteric doctrines with no small share of distrust. What would have been the result, in the cases before us, of attempting the cure of these intestinal affections by the use of a little gum-water and a few leeches?

We have seen so many cases of excessive accumulation of vitiated secretions into the intestinal canal, some of which have assumed a chronic form, that we have been led to view the facts and observations in the present work as being of the first importance. We have recorded what we consider an interesting case, very similar to those noticed in Mr. Annesley's paper, in the first number of the present volume of this Journal. This state of the alimentary tube was accompanied by chorea, which last only yielded to a course of treatment similar to that pointed out by our author, in the last case noticed by him—we mean the case of colonel M.

If then we see that the bowels are liable to this remora, while the evidences of disease are but moderate or inconsiderable: and if, in addition to this state of things, we see such frequent cases of superabundant viti-

ated secretions, apparently from the biliary organs principally. And, if we know that while in the former this is a constant source of irritation from the impacted ingesta, and, perhaps, also from the absorption of the thinner parts of the feces, as supposed by Mr. Annesley—and if in the latter case we find, that it is not only absolutely essential to remove all offending matters from the intestinal tube in cases of bilious fever, but that it is equally essential that the secretory apparatus must be corrected, or we shall have a continuance of undue accumulation, commensurate with the functional derangement—admit that this is all true, and of its truth we have no doubt, and what are we to think of the notion that gastro-enteritis is a disease sui generis, and the cause of all that constitutional derangement which we see so strongly marked in bilious fevers, when we view that disease in its widest range. E.]

In the 20th Number of this Journal, we brought the first volume of Mr. Annesley's work to a close, in four analytical articles which we dedicated to that stupendous publication. We now proceed to the second volume, the principal contents of which we shall lay before our readers, though not exactly in the order adopted by the author. Before entering on organic changes in the intestinal canal and some of the collatitious viscera, we shall first treat of certain functional disorders of the large bowels. The functional disorders here treated of, says Mr. A. "are chiefly characterised by a deficient tone or action—by a torpid state of the functions usually performed by the different tissues composing the viscera."

These disorders, he further observes, though little calculated to excite alarm at first, yet often lead to serious consequences in the end. The first subject of investigation is—

*I. Accumulations of Morbid Secretions and Fecal Matters in the Large Bowels.*

Even in health a remora of the secretions and excretions takes place in the cæcum and colon—and the construction of these parts proves that such remora was designed by the Great Architect of our frame. But unfortunately this remora too frequently goes to a morbid extent, producing not only mechanical but vital mischief. Our author thinks that among the immediate consequences of this torpid state of the bowels, is the retention of the mucous secretions poured out from their follicular glands, and the accumulation of mucus in the glands themselves subsequently, and in the ducts leading from them:—"hence the mucous follicles frequently become obstructed, distended, and subsequently inflamed and ulcerated." When, in addition to this accumulation of viscid secretions, the fecal matters are also retained, still greater mischief ensues.

"The more fluid portions of the feces, and of the secretions themselves, are then absorbed into the circulation, and carried either into the general current of blood, or, in the first instance, into that portion which flows into the portal vein, and which circulates through the liver. The consequences of this absorption of matters which are excrementitious and hurtful to the system may be readily inferred; and the effects it is calculated to produce upon the functions of the liver, and indeed upon the system generally, must be evidently injurious."

Retention of the biliary secretion, Mr. A. observes, causes *icterus* in the slighter shades—a symptom not uncommon in tropical climates, where the liver pours out a large quantity of bile that is resorbed from the intestines into the general circulation.

"When accumulations, either of mucous secretions, or of the fecal and other materials, or of all these combined, form in the cæcum and large in-

testines, the mucous follicles become obstructed, enlarged, and disposed to disease of a serious nature; the mucous tunic is impeded in the performance of its various functions; the muscular coats of the bowels become flaccid, and their irritability diminished; the accumulated materials enter into new combinations, give rise to gaseous productions, and at last degenerate into noxious matters; and thus the cæcum and cells of the colon are enormously distended by these materials, many of which have been collecting from a remote period, and by the flatus evolved from their decay and the new states of combination they are disposed to assume, from the presence of moisture, combined with a high temperature.

"The distention which frequently takes place in the colon and cæcum from these causes is often very great, and of itself productive of serious disorder. Nor is this surprising, when we consider the various connexions which the cæcum and colon have with the other abdominal viscera, and the manner in which the functions of these viscera may be even mechanically impeded by great distentions of these bowels. When in this unnatural state, the cæcum and sigmoid flexure of the colon press upon the femoral nerves, and blood vessels, the vena cava, and internal iliac veins, producing numbness, cramps, pains in the lower extremities, and even edema, owing to the impeded return of blood through the veins. The ascending and descending portions of the loaded and distended colon press injuriously upon the kidneys and adjoining vessels, and occasion a dull aching and sense of weight in the loins, with disorder of the urinary secretion. When distention of the right flexure and transverse arch of the colon is present, the functions of the liver, the discharge of bile into the duodenum, and the states of the gall-bladder, the duodenum, and stomach, are very materially interfered with. If the accumulations in the arch and flexures of the colon be carried to their utmost, the healthy conditions of the stomach, duodenum, liver, gall-bladder, and biliary ducts, become very seriously deranged, the descent of the diaphragm is much impeded, and the disorder extended to the functions of the lungs and heart. Owing to this latter effect, together with the mechanical influence of the original cause upon the abdominal circulation, the return of blood from the head is retarded; and, as one of its remote consequences, congestions on the brain, and effusions of serum from its membranes supervene."

Mr. A. has no doubt that enlargements and other diseases of the mesenteric glands often originate in this manner—and are cured by appropriate means. When unhealthy chyle is thus formed, and excrementitious matters carried into the circulation, nutrition fails—the countenance becomes pale and afterwards sallow—the body wastes—and various disorders of the respiratory, digestive, and nervous systems ensue, leading the practitioner to suspect organic diseases, when only functional disorder obtains. The irritation produced by these accumulations sometimes induces diarrhoea—sometimes dysentery, "frequently terminating in ulceration of the bowel." Intestinal worms, and cutaneous complaints are often produced, Mr. A. thinks, by these accumulations, as also hypochondriacal and melancholic affections.

"In respect of the symptoms *indicating a loaded state of the cæcum and colon*, it is necessary that the practitioner should be well informed. We need not acquaint the experienced observer of disease that these symptoms are very various in different cases, and that the disorder of organs remote from the seat of disease will often be the chief cause which we may have of suspecting the nature of the original derangement. In all cases, an accurate examination should be made of the abdomen of the patient, commencing with the seat of the cæcum in the right iliac region, following the direction of the colon between the top of the ilium and right ribs, across

the epigastric region, and under both hypochondria to the left side and left iliac fossa. If, in the course of our examination, pain be complained of, chronic inflammation should be suspected, and its existence judged of according to the symptoms present. If there be fulness evidently existing in the course now pointed out, or in the abdomen generally, and particularly if the fulness give a doughy sensation to the hand of the examiner, we may consider that the internal surface of the bowels is lined with *sordes* and accumulated secretions. If more or less hardness be perceived about the seat of the cæcum, or in any part of the course of the colon or its sigmoid flexure, then the accumulation of hardened feces should be dreaded. But even in cases where the most careful examination furnishes no proofs of the existence of morbid matters in the *primæ viæ*, we are not, on that account, to infer that they do not actually exist. Flatulence, either of the small or large intestines, frequently prevents the examination from being so successful as it would otherwise be; and even although the internal surface of the bowels may be much loaded, yet their calibre may also be so much contracted, or at least so little distended, as to give rise to little or no sensible fulness of the abdominal regions. Besides, it often requires very considerable tact to discover this species of derangement by manual examination—a tact which can be acquired only by experience."

A long continuance of these accumulations generally occasions additional symptoms, as uneasiness, sense of weight, and distension of the abdomen; together with loss of appetite, inactivity, dull pain of the loins, weakness of the lower extremities, furred tongue, drowsiness, &c.

Daily evacuations from the bowels afford no proof that the bowels are daily evacuated. Fecal matters will lurk in the cells and flexures of the colon for weeks, months, and probably for years, although the bowels may be daily acted on. The irritation produced by these pent up matters often leads to frequent calls to stool, by which both patient and practitioner are deceived.

"Upon inspecting the stools in these cases they are generally more or less fluid, or are of a soft consistence, and apparently composed of hardened feces, broken down amid a dark-colored fluid. Sometimes they are nearly of a natural color, but often brown, greenish-brown, or muddy; they are generally offensive. If in this state a gentle aperient be given the stools are frequently to appearance not much disordered—a circumstance which often misleads both the physician and the patient, and the disorder is therefore imputed to some other cause. If, instead of a gentle purgative, an active cathartic remedy be exhibited, the patient has frequent irritating calls to stool; the motions are watery, and loaded with a gelatinous mucus: and he often complains of tenesmus;—consequences which, equally with the former, tend to mislead. In these cases, the cause of disorder is frequently overlooked, and the employment of suitable medicines either not persisted in sufficiently long to be productive of advantage, or not at all resorted to.

"In cases of the description now under consideration, much discrimination is requisite in the choice of the kind of purgative which should be prescribed. If aperients and laxatives only be employed, they are seldom sufficiently powerful to remove the accumulated matters, and frequently they do little more than to procure the discharge of the more watery parts of the fecal contents, or the excrementitious materials more recently formed. If active cathartics be prescribed, they often occasion distress, by irritating the mucous surface so far as to excite considerable action of the muscular tunics of the bowels, and to occasion a firmer retention of the accumulated matters in the cells of the colon, so that the more fluid por-

tions of the feces only are brought away, with the exhaled fluids and the mucous secretion which the irritating effects of the cathartic had very greatly increased."

The author next adverts to the pathological condition of the bowels on which these accumulations depend. A torpid or inactive state of these viscera is connected, he observes, with debility of the frame generally, or of the bowels particularly. To this succeeds a defective secretion from the mucous membrane itself—and ultimately chemical decomposition of the pent-up matters.

"During the employment of the purgatives in cases of this description, and the persisting in the use of them for a sufficient time, it is almost surprising to observe the quantity of viscid, tenacious mucus which is brought away along with fecal matters which have evidently been long pent up in the cells of the colon. Sometimes the stools have a gelatinous appearance and consistence, from the quantity of this kind of mucus with which they abound. At other times this substance forms only a part of the stool, the rest consisting of fecal, offensive matters, and a watery fluid, with broken down feces: when such evacuations are observed, the mucus is often very ropy or glairy, particularly tenacious, and always deposited at the bottom of the vessel, owing apparently to its greater specific gravity. In such instances a stick is required to ascertain its existence, when it may be raised along the sides of the vessel by the point of the stick in one or more tenacious, glairy masses. As respects color, these mucous evacuations vary very remarkably. Sometimes they are of a deep green, passing into a greenish black: at other times they are of a yellowish green, and of every shade to a bright orange and pale yellow."

Mr. Annesley in this place hints that the gelatinous and glairy state of the evacuations has been attributed by some of his colleagues to the irritation of the purgative medicines employed—and thus the purgative plan has been impugned. But, says he, "if the purgatives occasioned the state of the evacuations which we have now described, the continued employment of them must invariably increase the quantity of mucus excreted, instead of diminishing it, and thus augment the disorder, instead of removing it." We think this inference is a very strained one. Does a disease never cease under improper treatment? The irritability of a membrane may become exhausted by repeated application of irritants, and especially of purgatives, and thus the disease may appear to be cured by means that were by no means indicated. We do not say that the purgatives were improper in the cases under consideration; but we certainly do demur to the general conclusion which our author has drawn in this place.

In the following remarks we are happy to agree with Mr. Annesley.

"Not only has this particular mucous or gelatinous state of the stools been ascribed entirely to the purgatives used, but the greenish hue of the evacuations has also been imputed to the same cause; namely, to the influence of calomel, when that particular purgative has been prescribed. That calomel actually has the effect of giving a greenish tinge to the alvine evacuations, we will not deny; but we do contend, from an experience of this remedy as extensive as has ever been enjoyed by any single practitioner, that, when it gives a greenish tinge,—whether of a very dark or of a very light hue, or of any intermediate tint,—to the alvine evacuations, the secretions poured into the alimentary canal are of a morbid condition, requiring purgatives to carry them out of the system, and mercurial alteratives, or medicines operating in a similar manner, to restore the secretions to a healthy state.

"When mercurial preparations, especially calomel, mix with the morbid secretions lining the alimentary canal, and with the biliary and pancreatic



juices, and more particularly if the bile have been detained for sometime in the gall-bladder, or have otherwise acquired greater consistence, a deeper color, and more acrid properties, a greenish tint of the evacuations is generally remarked, the deepness and darkness of the color depending on the quantity of the bile, and the condition of the secretions of the bowels and of the functions of these viscera generally: but this condition is less to be imputed to the particular kind of medicine prescribed, than to the morbid condition of the matters collected in the bowels on which it acts. That such is the case, is proved by the circumstance of the stools assuming a healthy character after this particular purgative has been employed sufficiently long to carry off the morbid secretions and accumulations existing in the *primæ viæ*, and to correct the disordered state of functions whence these conditions proceed."

**TREATMENT.** The *indications* are sufficiently obvious—namely, the exhibition of purgatives for the removal of accumulations, and the prevention of their re-accumulation by proper diet and medicines. In respect to the first indication, our author conceives that the generality of practitioners stop far short of the point to which purgation should be carried, being misled by the reports of the patients or appearance of the stools. Whatever truth there may be in this remark, we agree with Mr. A. that the best purgatives are those which procure "a full, bulky, but not frequent evacuation of the bowels." Such remedies restore strength when it fails from the presence of fecal matters, instead of lowering it still further:—a consequence that often results from watery purgations.

"In many cases of long neglected complaints of the digestive organs, the internal surface of the bowels, particularly of the cæcum and cells of the colon, become so thickly coated with a tenacious and thick secretion, giving rise to disorder of the *primæ viæ*, or of some remote organs, as to require the continued and energetic action of those purgatives more especially which procure full and bulky evacuations, before healthy condition of the system is restored. It is precisely in cases of this description that full doses of calomel given at bed time, operate so beneficially; for this medicine produces its purgative effects, as we have already shewn, by dissolving the tenacious secretions, by promoting the biliary secretion, and by increasing the secretions of the mucous surface generally,—thus preparing the accumulated matter, and the bowels themselves, for the operation of the purgatives which may be subsequently prescribed."

On this, as on numerous other occasions, our author gives a preference to compound powder of jalap, the bitter aperient mixture, castor oil, decoct. aloes comp. compound aloetic pill, aided by calomel, when we want to promote the intestinal secretions as well as evacuate the bowels. Till the stools assume a healthy character, the purgative plan is to be strenuously pursued.

"Nor should he be misled by the appearance of healthy motions from the operation of the first doses of purgatives which he has prescribed, for he shall often find that, although the stools are at first apparently natural, yet the continued operation of these medicines will succeed in bringing away morbid matters long pent up in the cæcum and cells of the colon, having a very dark and marbled appearance and putty-like consistence. In such cases, the indication is clear, and the continued action of the purgatives obviously requisite. But when the stools contain the glairy, gelatinous, and viscid mucus already referred to, much more doubt is apt to attach itself to the mind of the practitioner; and he is more prone to be diverted from his object by the supposition that the state of the stools is the consequence of the purgatives employed. The source of this appearance of the motion we have

already attempted to explain in the foregoing section; and even when it does not proceed from that source, it is to be imputed to the presence of some other cause of irritation in the *primæ viæ* than the purgative prescribed."

Mr. A. assures his readers that it is a most dangerous error in the practitioner to forego the use of calomel when the motions assume a greenish or spinage-like hue after the administration of that medicine, as we may be assured that the secretions of the intestinal canal, and even of the liver are in fault. Injections to facilitate the discharge of these morbid and poisonous secretions are very beneficial, as they prevent a great deal of irritation in the bowels and consequent disorder of the whole system.

But, as it sometimes, perhaps not unfrequently, happens, that the retention of accumulated matters in the large bowels depends on spasmodic contractions of the lower portions of the colon and rectum, so it will be necessary, in such cases, to use the mildest purgatives combined with anti-spasmodics, as hyosciamus, compound galbanum pill, ammoniac, æther, &c.—The enemata should be of a similar kind. In many cases, also, bitters, or even tonics—and sometimes wine, are necessary at the time that we are exhibiting purgatives, in consequence of the debility which generally, as well as locally, prevails.

A series of cases are given by Mr. Annesley, in illustration of the observations in the next. Of these we shall only be able to insert one—and that the first on the list.

"COLONEL M.—had been some years at the Cape of Good Hope, and enjoyed tolerable good health on his passage to Madras. He suffered much inconvenience from the want of those comforts in the ship which were essential, and indeed common. It may be presumed, therefore, that these privations and annoyances called into action some lurking disease in the constitution; for he was attacked, immediately on his arrival at Madras, in 1820, with an affection of the bowels, characterized by frequent inclinations, without the power to relieve himself; the motions were sometimes constipated, at other times loose, with a dull heavy deep-seated pain in the abdomen; foul tongue; great prostration of strength, and wasting of the flesh. The pulse was good, and the skin natural; spirits very much depressed, though he was naturally a very lively man, and he had no inclination for exertion; he says that for some time past he has felt the sensation of being what is commonly called bilious, and has taken some medicine, but he had never been under any regular treatment. On examining the abdomen, there was no pain on pressure being made on the hypochondriac region or under the ribs, but there was fulness at the epigastrium, and less elasticity over the whole abdomen than in health, particularly at the cæcum, where we observed some degree of tumefaction. The tongue, he says, has been foul for a long time, particularly on getting up in the morning; and the motions, although natural to appearance, have been irregular. From the fulness and want of elasticity in the abdomen, and particularly the accumulation in the cæcum; the nature of the disease appeared quite clear, and we immediately commenced upon a purgative plan of cure.—R Calom. gr. x.; extract colocynth, gr. jv.; syrup. q. s. Ft. pilul. h s s. Mist. purg. ʒjv.; mane sumend.

These had very little effect, and what passed was not in any degree morbid.—The following pills were given.—i. e. pilul aloet. cum. calom. et antim tart. no. 1. three times a day; the calomel repeated at bed-time, and the purging draught in the morning.—These acted, but not fully, until they had been continued for eight days, when they began to bring away much morbid matter, viscid and tenacious, of a brown color. The same treatment was persisted in for six days longer, by which time the medicines began to act more regularly and decidedly. The pills were continued, and the bitter

aperient mixture given night and morning. After these had been taken for three days longer, making altogether three weeks, the motion put on a very different appearance: they became viscid and gelatinous, of various colors, pale green, dark green, and of an orange color, with some heavy clay-like matter, which sunk to the bottom of the vessel. He had great pain in passing these motions, and particularly before the medicines acted: this induced him to believe that the remedies disagreed with him, and it was with some difficulty that we could persuade him to continue them. They were, however, continued without interruption for a fortnight longer, the patient passing the same kind of matter daily, varying, however, in color, from jet-black to pale green, and from that to light yellow. The green stools had much the appearance of the scum formed upon stagnant water, and could be raised in the same manner by a stick. The purgatives were changed occasionally to calomel at bed time and castor oil in the morning, but the same plan of treatment was regularly persevered in. The quantity of viscid, gelatinous and tenacious matter that passed away was almost incredible. The symptoms at one time became so extremely distressing, as even to occasion faintness while at stool; but the quantity of morbid matter which was discharged, would have deterred any person who had not witnessed many similar cases from following up the purging plan, and might have been considered as the effect of the medicines. Purgatives, however, were regularly given, with the occasional variation above noticed, for ten more days, when the motions became more natural, though still viscid, and he passed them without pain; his spirits also improved, but he was exceedingly reduced in strength. The following pills were now prescribed; and the mixture continued. *R* Pilul. aloet., hydrarg., et ipecac. nocte maneque. *Repet. mist. amar. cum senna, ℥ij. nocte maneque.* Sago, arrow-root, and wine, are allowed.

"In six days from the period at which the above were prescribed, the motions became quite natural in appearance and odour; and no more viscid, tenacious matter was discharged. The pills and the bitter aperient mixture were continued every night; his appetite improved; and from this time he recovered, but continued the medicine for another week, when one pill only was given, and the aperient every second or third day. The mineral acids and cold infusion of bark were now prescribed, and in a fortnight he was quite well, and is now in England and in good health."

We shall pursue the various subjects of this second volume in succeeding articles.

*Employment of the Oil of Turpentine in Neuralgia.* In the March number of the *Revue Medicale*, we find two interesting cases of neuralgia, in one of which oil of turpentine had been prescribed with decided benefit, in the other effecting a complete cure. For the result of these cases the profession is indebted to M. Rayer, of the Hospital of Sainte-Antoine; they go to substantiate the results obtained by the use of this remedy, announced in an essay written by M. Martinet.

The first case was a chronic and obstinate neuralgic affection of the superior maxillary nerve, in which many of the therapeutic means were tried without any good effect; while the oil of turpentine afforded decided relief in several distinct attacks of the disease. The patient was a man of sixty-six years of age, a cabinet maker by trade, who had been afflicted for twelve years with very violent neuralgic pains of the right side of his face. Had been several weeks in different hospitals, under the care of skilful physicians, without obtaining any relief. Leeches, blisters on the cheek, general bleeding, acupuncture, the extraction of four teeth, valerian, the pills of Meglin, extract of belladonna, had all been tried in vain. And one prac-

itioner had even divided the facial nerve, which likewise afforded no diminution of the disease.

At the time of his entrance into the hospital of Saint-Antoine the patient was still a prey to the most horrible sufferings; the pains being seated deeply in the orbit, temporal fossa, dental sockets of the superior jaw, and in the sub-orbital region, though sometimes darting over the whole face, and sometimes following one of the branches of the affected nerve; at one time they lasted but a moment, at another time they continued for six or eight minutes.

This man, who was very irritable and harrassed by his long suffering, begged impatiently for some medical assistance, in which, nevertheless, he had but little confidence.

Towards the end of May, M. Rayer prescribed an opium plaster, renewed very frequently. This afforded no marked relief.

On the 2d of June, he ordered a julep with a half a dram of the essential oil of turpentine, which was gradually increased to two drams. There was a sensible improvement every day; and on the twelfth day of the exhibition of this medicine, there was the most remarkable relief, the pains being much less violent, and the intervals of the attacks much longer.

15th. Symptoms of gastro-intestinal irritation being manifest, the employment of the article was suspended; but the original disease was considerably ameliorated.

On the 25th there was a return of the disease in all its violence, and recourse was again had to the oil of turpentine, small doses of tartarized antimony being added in the form of pills,—he was again much relieved.

The patient left the hospital on the 15th July and returned on the 18th August, the disease having returned with the same frequency and intensity. The oil was again used, and with benefit, but it was soon necessary to discontinue the medicine, on account of intestinal irritation, which forbade its further employment, notwithstanding its apparent efficacy.

Other means were now tried, such as camphor, blistering, &c.

On the 27th October, the patient, having derived scarcely any benefit from these last means, left the hospital to go into the country: and no information of him had since been received.

The second was a case of sciatic neuralgia. The Patient a female aged 47 years. This woman, the mother of many children, often exposed, by her occupation, to wet and changes of weather, was attacked four months previous to her entrance into the hospital, which she entered on the 16th January, 1830; with general uneasiness, and pains over the whole body, but chiefly in the large articulations and about the left hip. For some days the slight rheumatic pains left her; but the neuralgic affection then became more local, and concentrated itself about the hip, which in the beginning was most particularly affected. The patient pointed out in so precise a manner the seat of her pains, and the direction they pursued, that it was impossible not to recognize an affection of the whole sciatic nerve. Commencing in the lumbar region, the pains went off towards the ischiatic region, the posterior part of the thigh, the ham, the external part of the leg, and around the tendo achillis, and terminating in the sole of the foot and in the toes.

During the exacerbations, she had intense cephalalgia, precordial and epigastric uneasiness, weakness and difficult breathing.

For twelve days, camphor pills were prescribed. After a slight and momentary relief, the pains of the hip and the general uneasiness were increased. She was bled to fourteen ounces. Same state of neuralgic pains, but diminution of cephalalgia and difficulty of breathing. A hundred

leeches were applied, in two applications along the course of the sciatic nerve. No durable amelioration. Two blisters were put on, one about the great trochanter, the other along the head of the fibula. Her sufferings, far from being allayed, were augmented.

At length, on the 7th of February, twenty four drops of the essential oil of turpentine were prescribed in a julep. This new remedy, continued ever day, till the 14th, had a complete triumph over the obstinacy of the disease.

From the tenth the patient was entirely freed from her pains, and her general condition much ameliorated. There was no symptom of gastrointestinal lesion.

On the 15th the patient continued to be very quiet and comfortable.

### SURGICAL.

*We quote the following particulars of two cases of calculus in the female, from Johnson's Journal, for January 1830.*—The first case is copied from the Glasgow Journal.—We are told that Mr. Wilson made an unsuccessful attempt at lithontrity—the patient suffered severely. Ten days afterwards, the urethra was dilated to the extent of an inch and a half, and a large calculus readily broken down. Patient recovered without the usual attendant of dilatation, that is, incontinence. We are told that the urethra was dilated, to the necessary extent in ten minutes, with Weiss' dilator, and, without much pain. We cannot presume to doubt the fact here reported, but how many cases may we see recorded where the most agonizing pain attended ineffectual attempts at dilatation, as well as in cases where success attended the operation? And we would ask, who that has seen much of calculous disease in the female, can be unacquainted with the fact of the extreme morbid sensibility of the urethra in many cases. Let us not then in estimating the respective merits of the several expedients for relieving the female from this painful disease, forget that they may all be made available at times, and that often again they all fail. Our own experience, however, is decidedly in favor of a plan of operation, which we have practised, being a modification and simplification of the method of M. Lisfranc. This operation has been formerly described in the late Medical Recorder of Philadelphia, but not noticed, so far as we know, by any European journal.

Nothing can be presented in form of an operation of greater simplicity, and we have attested its advantage in several cases. It consists in merely introducing a small scalpel into the urethra, and making an incision upwards till we reach the clitoris, we then turn the knife externally, first passing in a director to guide it into the bladder, cutting laterally till we reach the lining membrane at the mouth of the vagina, we now push the knife on into the bladder. The knife having a very short cutting edge, cuts only near its point—with a knife so constructed, we can safely dilate the wound in the neck of the bladder laterally, as much as we may deem necessary, without any risk of cutting into the vagina. It will be found that we have ample room for the forceps, and that a stone of very considerable size can easily be extracted through such a wound.

The stone extracted entire, or piecemeal if too large, we may pass one suture through the lips of the external wound.—We have always succeeded in healing it by the first intention.

The second case noticed in the paper before us, is by doctor McFarlane, on a girl three years and some months old; next day she ran about, and was not subject to incontinence after a few days. The urethra was dilated

to the extent of an inch in ten minutes. This is all very well, but let gentlemen of the profession recollect, that we have here a state of things very unlikely to occur again.

In a great majority of cases we shall either have extreme suffering or incontinence, as consequences; or, both may follow the operation of dilatation; while, we venture to predict, that under favourable circumstances nothing untoward will ever occur from the simple incisions which we recommend. E.]

*An Essay concerning a new method of performing the sub-public operation of Lithotomy.* BY M. COLOMBAT.

Taken from the *Revue Medicale*, and translated for the *Maryland Medical Recorder*, by Rush Jameson, M. D.

The fact must be familiarly known to every medical reader, that the French surgeons have excited the particular attention of the medical public throughout christendom, to their endeavours to improve the operation of lithotomy, or rather the surgical means for extracting calculi from the human bladder. It has fallen to the lot of M. Civiale to occupy a very prominent notoriety in the new operation termed lithotritie. But notwithstanding the seeming, and, perhaps, just increase of public confidence in the method of M. Civiale, surgeons in other countries do not seem to have been equally successful with that distinguished individual.

We have never materially changed our opinion of the nature and value of the operation of lithotritie. Being a subject of the highest interest to mankind, we early paid especial attention, so far as we could obtain information, by periodicals and by such instruments as were brought over as samples of what were using in France. We soon arrived at the conclusion that however well M. Civiale with his high gifts of mechanical tact, and untiring perseverance, might have succeeded, still it was evident, that many cases of stone were accompanied with circumstances rendering this method inapplicable; and even in those that presented none of these obstacles, it would fall to the lot of few individuals to acquire the necessary dexterity, with the instruments, to enable them to afford relief. These conclusions have been fully and clearly verified, since no surgeon out of France, notwithstanding the length of time which has elapsed since Civiale's annunciation of his new method, has succeeded in rendering this operation acceptable to himself, or safe and desirable to his patients.

It will be seen that M. Colombat raises, even at this late date, the same objections to lithotritie that we offered several years ago, as may be seen by reference to the late *Medical Recorder*. This having been done with a full knowledge of all the merits of the new operation, and with sentiments decidedly in favor of lithotritie, in certain cases, to which it is suited, is one of the inducements for offering a translation of the memoir of M. Colombat to our readers. At the same time, we think a brief expose of the subject of lithotomy, and similar operations, may not be useless or uninteresting, at this time, since it will enable us more justly to appreciate the respective merits of different methods, and serve to show the slow but sure improvement in this operation.

Besides we feel willing to present our readers with entire memoirs from time to time, with a view of showing the state of medical literature in other countries. If this paper was favorably received by one of the most respectable Parisian journals, our readers will not object to the room it occupies, since it must be acknowledged to involve a subject not only of extreme interest, but which at this time shares a peculiar state of notoriety.

To those who are acquainted with the method of operation, &c. which we

have followed for several years, with the most pleasing results, we need hardly say, that we see nothing to admire or recommend in the operation of M. Colombat. But we conceive it our duty to afford the profession all the information of which we can avail ourselves from all quarters. We simply ask a careful perusal of this proposal of four incisions into the neck of the bladder, and compare it with the simple operation recommended by the editor of this journal.—E.]

Although cystotomy may be traced back to the remotest antiquity, it remained in its infancy until the sixteenth century. The effects of this operation, almost always murderous, as practised before this epoch by men who had no correct knowledge of anatomy, explain sufficiently the motives that had dictated the writing, so well known under the name of *Serment d'Hippocrate*, incorrectly attributed to the father of medicine.

It is with truth that it has been said, that no surgical operation had captivated the attention of authors, and excited the zeal of surgeons, more than cystotomy. If I were to give here a description of all the methods proposed, or put in use, for the purpose of penetrating into the bladder, a large volume would scarcely suffice; besides I would wander from the subject I have in view, which is only to give publicity in a few words to a new method of performing the operation. Nevertheless, I believe, before giving a description of my method, in order that it may be compared with others, that it is necessary to mention succinctly the four methods, which, in the present day, are nearly the only ones adopted by practitioners, and to preface the details with a short sketch of the numerous cases, in which cystotomy ought to be preferred to *Lithotritie*.

This last surgical discovery is a benefit almost as great as that of vaccination, since, although in a range happily more limited, it tends to destroy one of the most terrible scourges of mankind, in relieving them from one of the most cruel of maladies and the most dangerous of operations.

Notwithstanding the numerous jeers, which the first ideas of breaking down calculi in the bladder gave rise to in France, the success predicted to lithotritie by enlightened men is verified every day, and fortifies the opinion expressed at that time, that this ingenious discovery would be soon, in a great number of cases, the method most generally adopted; because it is less frightful, less painful in its application, and almost always more happy in its results.

Unfortunately for mankind, lithotritie, in the present state of our knowledge, is applicable only to a certain number of individuals; to attempt this operation in the cases which I am about to point out, would in the first place, bring it into question, and afterwards compel patients to have recourse to cystotomy; which would place them in circumstances much less favorable.

The cases, sufficiently numerous, where lithotritie is contra-indicated, and where the operation with the knife ought to be practised in preference, are the following:

- 1st. On infants under five years of age.
- 2d. On persons afflicted with chronic affections of the bladder, or having some derangement of the kidneys.
- 3d. On those who have a considerable contraction of the canal of the urethra; the prostate being very voluminous; the bladder divided into column-like partitions; or being of a capacity very small, or of excessive irritability.
- 4th. In cases of calculi which are very numerous, or very large, or very hard; which have for their nucleus something that it would be impossible

to break down, such as a ball of steel, bits of iron, pieces of glass, in short, all cases of encysted calculi.

5th. In certain cases of exostosis of the arch of the pubis and of the ischia, in cases of irregularity of the mouth of the urethra, (hypospadias and epispadias) of obstruction of the prostate, which hinders the introduction of a large sound; this malady being very common among old men affected with calculi which have remained a long time in the bladder.

6th. Lithotritie, in short, cannot be used on very irritable individuals, subject to spasm of the urethra, which contracts in such a manner, even when the catheter is introduced by the most skilful hands, that it is impossible to introduce the lithotriptor without giving rise to the most exquisite pain, and to general convulsions. The employment of this operation in cases of numerous calculi, would call for the too frequent introduction of the instrument, or cause consecutive inflammation of such violence, that the patients would sink under it, or at least it would be necessary to abandon lithotritie, in order to have recourse to the knife in circumstances now less favorable.

From what I have said, perhaps I may be regarded as an enemy to the *grinding operation*, (*methode de broiement*,) although perhaps there is not a surgeon who is a more ardent defender and a more zealous partisan of this happy discovery than myself, for which I have made a great number of modifications, by means of new instruments that I have contrived, which I shall make the subject of an essay that I am about to publish with plates in another number of the *Revue Medicale*.

But as I am far from being an *ultra* enthusiast, anxious in all cases to employ the same means, I believe, that notwithstanding the few mortal accidents which follow lithotritie, we ought, in almost all the contra-indications, which I have pointed out, to prefer cystotomy; although this latter operation may be more frightful, more painful, and may offer much more uncertain success.

In the present state of our knowledge, the methods of performing the operation of lithotomy, and almost the only ones employed by surgeons, are four in number.

The first, called the *lateral*, consists in making an incision which commences eleven or twelve lines from the anterior edge of the anus, and which goes off from the raphe, following an oblique direction to the point of union of the external third with the two inner thirds of a horizontal line, which runs from the tuberosity of the ischium to the centre of the anus; and then to penetrate into the bladder, by cutting its neck, the prostate, and the membranous portion of the urethra.

I will speak hereafter of all the inconveniences of this method, of which there are found some traces in Franco, but which was proposed by *le frere* Jacques de Boileu, and since perfected by the successive labors of Bau, of Ghieselden, of Ledran, of Moreau, of Lecat, of Ponteau, *le frere* Come, of Hawkins, &c. It has received likewise in our day, modifications by M. M. Thompson, Guerin de-Bordeaux, Dupuytren, Boyer, and especially by M. Lisfranc, who with an admirable dexterity and an astonishing promptitude, penetrates with a single cut into the bladder, with an amputating knife of moderate size and length.

The second method, called *recto-vesical*, appears to have been first proposed in the sixteenth century, by a German surgeon of the name of Vegetius, who published his method at Balz. *Jubet per vulnus recti intestini et vesica culeo lapidem ejicere*, says Haller in speaking of this author. But it was not until 1817 that M. Sanson published a description of this manner of performing cystotomy, which consists in penetrating into the bladder in the following manner:—Introduce a catheter, which is to be confided to the



hands of an assistant, who ought to hold it in a vertical direction, carry two fingers into the rectum, cut deeply into the intestine and the bladder in the triangular space which is formed between the two vesiculæ seminales, then extract the calculus.

This method which has been more or less modified by M. M. Vacca Berlinghieri, Geri, Barbantini, Urbain de Luxembourg, has been received coldly by French surgeons; for there are in France, if I am not mistaken, only its author, M. M. Dupuytren, and Janson de Lyon, who have employed it. The results almost always fatal, have caused it to be laid aside, and sufficiently illustrate the numerous inconveniences with which it has been reproached.

*The third method, called bilateral*, which according to some persons, appears to have been first hinted at by Celsus, and at a later period advised by Franco, has been brought into favor in our day by Chaussier, Beclard, M. M. Ribes and Dupuytren. The method of this last surgeon consists in introducing a catheter into the urethra and the bladder, to cut the perineum and the membranous portion of the urethra, to direct afterwards his lithotome of two blades into the bladder, and finally to separate the blades of the instrument as it is withdrawn open in order to divide the neck of the bladder and the prostate so as to separate these parts into halves, the one anterior and the other posterior.

This method which has been crowned with brilliant success, has the advantage of not injuring any artery, which could give rise to alarming hemorrhage, and does not produce, as in the methods of which we have just been speaking, lesion of the rectum and the seminal canals; but it has, as all the other prostatic operations of lithotomy, the very great inconvenience of affording an incision of a button-hole shape, the vertical diameter of which is always extremely small, and compels the operator, who attempts to extract a very large stone, to tear the prostate and the fibrous tissue, which surrounds it; unless he prolongs the horizontal incision beyond the limits of the base of this gland, whose dense tissue is now unable to prevent infiltration, and urinary fistulæ, which causes always inflammation of the cellular tissue, which abounds in this region. This last unhappy consequence, in my opinion, is that which is the most fatal. The *bilateral* method of cystotomy, then, offers real and incontestible advantages only in cases where the calculi are small.

*The fourth method, called the hypogastric, or super-pubic*, which at the present day engages the attention of many of the most distinguished practitioners, at the head of whom are M. M. Le professeur Cruveilhier, Soubert, Amussat, Civiale, Tanchou, Rigal, etc. was practised for the first time about the year 1556, by Franco, and was adopted by Rousset, Groby, Fabricius de Hilden, Douglas, Groenvelt, Cheselden, Macgill, Thurnhill, Berryer, Heister, Bonnet, Morand, and *le frère Come*. It had been abandoned for a long time, and it is only within the last few years that surgeons have paid any attention to it. One may truly say with Horace, in his work, *de Arte Poetica*: "Multa renascentur quæ jam cecidere, cadentque quæ nunc sunt in honore." M. M. Lisfranc and Dupuytren, have also adopted the super-pubic operation; but the less favorable result of this method, when attempted by hands equally skillful, prove that it has objections, which serve to make surgeons more timid and more reserved in its adoption.

The high operation consists in cutting the integuments of the hypogastre immediately above the symphysis of the pubis, and penetrating into the bladder by its anterior and superior part after having made this membranous sac swell up, either by injecting water to augment its volume, or by pushing it from within outwards by a sound *a dard*, introduced into the

viscus through the urethra, or by an incision made in the urethral canal at the lower part of the perineum. This method appears to be actually employed with some success by many young surgeons, among others by M. Amussat; and we will now hastily describe the method, which he has divided into six stages.

First stage. Injection of warm water into the bladder; an assistant holding the penis to prevent the escape of the liquid.

Second stage. Consists in cutting the skin above the pubis, along the mesial line, to the extent of three fingers breadth; dividing the linea alba near the pubis only, so as to be able to introduce the left index finger.

Third stage. We plunge the bistoury into the bladder, guided by the left index finger.

Fourth stage. We explore the bladder with the finger; enlarge the opening in the bladder, and that of the linea alba, if it be necessary, and seize the stone with the forceps and extract it.

Fifth stage. Introduce a large curved canula, and fix it at the lower corner of the incision.

Sixth stage. Reunite by the first intention the remainder of the wound, with straps of diachylon plaister, with graduated compresses and a bandage around the body.

Among the inconveniences of this method, ought to be first mentioned, urinary infiltration into the pelvis, consecutive peritonitis and lesion of the peritoneum. The fear of these accidents, almost always mortal, ought to make surgeons very circumspect in the employment of these surgical means, and also with the modifications connected with them. I am now about to speak of the method of performing the operation of lithotomy which I propose.

#### *Quadrilateral prostatic Cystotomy.*

Although I do not reject altogether the hypogastric operation, especially when it is performed after the modifications of M. Amussat, I regard as very dangerous the cutting into the body of the bladder, and do not hesitate to say, that among all the methods proposed up to the present time, the most rational and the most certain are those which consist in extracting by the natural opening of the bladder, the foreign substances which are found in that organ.

To arrive at this result, many methods have been invented, the object of which is to enlarge the orifice of the bladder, and make an incision on one side; this incision, which in shape is like a button-hole, has a large horizontal or vertical diameter, according to the method employed, may permit the easy passage of a spherical body, often voluminous and covered with asperities, without one being obliged to employ great efforts and to make use of violent pulling, which result in tearings and contusions, which not only retard cicatrization of the wound, but lead often to mortal accidents. I have already pointed out a new method, which, like that which I propose at this time, would appear to prevent a great part of the inconveniences that the sub-pubic operation has been reproached with, has been proposed and described in a thesis, by Dr. Vidal: this method consists in making with a blunt pointed bistoury, four oblique incisions along the prostate and the neck of the bladder, in order to thus obtain a dilatation, which may permit a large calculus to pass easily through the vesical orifice, without there being any need to pass beyond the base of the prostate, and without tearing or contusing the edges of the wound.

This method, similar to that which I propose, and which is of more easy execution, is based upon anatomico-chirurgical considerations, so well pointed out by M. Vidal, that the fear of weakening his criticism and the correctness of his ideas, has induced me to give first a description of my

manner of operating with these general considerations, after having given some anatomical details, upon which is based the quadrilateral operation.

In all the methods of sub-pubic cystotomy, the prostate gland is the organ with whose structure and anatomical relations, it is necessary to be intimately acquainted, and especially its diameters, which are four in number; the vertical, the horizontal, and the two oblique. The first, in adults is from eight to ten lines; the second, from sixteen to eighteen, and the two oblique, which are the greatest, are from twenty to twenty-two, and even twenty-four lines. If we wish to measure the radii of the prostate, in taking for the centre the neck of the bladder, we find in the natural state, six or seven lines for the inferior median radius, two or three for the superior vertical median, eight or nine for the two transverse, nine to ten and sometimes still more, for the inferior oblique, five to seven for the superior oblique. If we pass beyond these limits, we shall invariably cut the very strong and unyielding fibrous membrane which surrounds the prostate; it is this prostatic sheath and the base of the gland, that it is necessary to have an eye to, in order to avoid infiltration. We have not then to fear, lesion of the rectum, of the vesiculæ seminales and of the prostatic venous net work, which often occasions considerable hemorrhage.

"In seeing me, says M. Vidal, divide in four different ways, persons have accused me of cutting into pieces the prostate and that portion of the urethra which passes through it. Now if they had read with attention the description of the method that I propose, they would have seen at once, that the urethra never could be divided but into two segments as in the *bilateral operation*, notwithstanding the four incisions; it would be but those which act on the oblique radii, which are prolonged to the top of the prostate. The division which is made on the superior oblique radii, would absolutely only act upon the base of the prostate which surrounds the orifice of the bladder. The rest of this gland is avoided at these two points, and consequently that portion of the urethra which corresponds to it; and in a word the operation will be *quadrilateral* only upon the neck of the bladder, where are found the greatest obstacles to the passage of the stone. The exterior incision, those of the body and of the prostate, will be the same as in the bilateral operation.

My object, which no doubt is already understood, is to effect considerable dilatation, and that without going beyond the limits of the prostate; in a word, to extract calculi of a large size, and avoid the accidents which follow the efforts necessary to their extraction by the other methods, and all those which are the result of an extended incision.

To appreciate all the advantages and dangers of the prostatic operations, performed every day, when it is necessary to extract a very large calculus, let us examine what are the consequences of the wounds of the prostate produced by the incisions, or by the lacerations.

When the incision which has been made at the prostate has not passed beyond the limits of the base, and when the section has been very clean, on the instant the tissue of the gland swells up, the surfaces of the incision approach each other, and the urine not being able to pass by this wound, takes its course by the urethra: then it may pass, for some days, by the exterior incision, and it may also happen, that in less than five days it may traverse entirely the canal of the urethra. Nothing proves better what I have advanced here, than the success which Beclard obtains by the *bilateral operation*: in less than three hours after the operation the patient passes his urine by the penis. But matters do not go on so well when the wounds of the prostate, in place of being simple, are sinuous and unequal: in fine, when small portions of the gland have been detached, as that happens when we draw out with violence, a calculus studded with asperities. In

these cases in supposing even, that the lacerations may not have passed the bounds of the prostate, urinary infiltration may follow, and when this fatal accident has not taken place, there may come unexpectedly incurable fistulae. M. Vidal has observed, and I have likewise seen this last circumstance as a consequence of the *bilateral* cystotomy; the urine would still pass by the wound, more than a month after the operation, an epoch at which the patient, an infant, sunk. I ought to say here, that there had been much trouble in extracting the calculus, because the division had not been suitably made.

"The lacerations, continues M. Vidal, have much more fatal consequences when they pass the limits of the base of the prostate. In wounds of this extent, the body of the bladder is found included. The following is what happens as a consequence of these wounds when they are made by incision: the lips of the wound made at the prostate, approach one another by the effect of swelling: they soon come into contact: they do not permit the urine to pass, and this fluid passes by the wound which has been made in the body of the bladder, much more easily than by the vesical orifice; it infiltrates into the cellular tissue which surrounds the prostate and the bladder; thence, suppuration, and mortification. The morbid products are in great part, above the superior aponeurosis of the perineum, almost in contact with the peritoneum; thence, inflammation of this membrane and its consequences, which are almost always fatal. These are the accidents which rendered the practice of Cheselden so unsuccessful in the first attempts, by the lateral method, before he had learned to fear the wounds of the prostate which went beyond its base.

*Quadrilateral cystotomy*, such as has been described by M. Vidal, although very ingenious, and apparently offering numerous and real advantages, has, in my opinion, some objections, which I believe, I have in part removed, by a cystotome or operating knife with four blades, which makes four incisions by a single stroke, and in a manner more precise and clean, than that made by the bistoury, which passing slowly and painfully in the middle of a deep wound and acting almost solely at the point, injures and cuts unequally the tissues, which renders the operation longer, more painful, more difficult, and for this reason, more likely to be followed by inflammation.

*Description of the prostatic cystotomy, with a four-bladed cystotome.*—The instruments necessary to perform the quadrilateral operation after the method which I propose, are the following: a sound, having a large and deep groove, (such as those manufactured by the cutlers Weber and Charrière;) two bistouries, fixed upon their handles, the one convex upon its cutting edge, the other of a double cutting edge, for dividing the urethra upon the sound; a gorget, forceps of different sizes, and especially the *Litholabe*, (stone-grasper) which I have invented that has much similarity to the pincers employed, in lithotritie, by M. M. Leroy and Civiale. This instrument introduces itself in a small volume, seizes easily the calculi, which will be rarely broken, and which, in this hypothesis, would furnish almost no fragments which might fall back into the bladder, since they would be retained by a kind of metallic pocket formed by the approximation of the numerous and very slender prongs of the *litholabe*. In fine, this instrument withdrawn from the bladder after having seized the stone, adds less to its diameter, and requires a smaller incision than the forceps, which often suffer the calculus to escape, and which having no parallel prongs, tear and contuse the tissues. Another advantage which the *litholabe* offers, is to present on its external part, a graduated scale, which permits one to appreciate nearly the diameter of the calculus, and to in-

form us whether its size bears a suitable relation to that of the incision; that if necessary, we may extend it in the four directions pointed out, in order to avoid contusion, and laceration of parts.

We ought likewise to be supplied with all the necessary articles, for the operation in view.

The patient is placed upon a table as in the other methods of the sub-public operations, and after being tied in a suitable manner, his feet and hands as ordinarily practised, we assure ourselves again of the presence of a calculus: this being ascertained, and the catheter held by an assistant perpendicularly to the axis of the body, the operator, his right knee resting on the ground, places the thumb of his left hand upon the right tuberosity of ischium, and the index finger of the same hand at the root of the scrotum, in order to make tense, by this means, the skin of the perineum: with the other hand, grasping a straight bistoury, slightly convex on its cutting edge, he carries its point upon the right side of the perineum, within an inch of the raphe, and directs it from the left side as far as to the opposite side, in describing a curve whose extremities look towards the ischia, and whose concavity will be turned towards the anus. The middle part of the incision, or rather the middle of the arch described by it, ought to be, in infants, from six to seven lines in front of the anus, and from ten to twelve in adults. The parts divided in this stage of the operation are, the skin, the sub-cutaneous and adipose cellular tissue, the perineal aponeurosis, the bulbo-cavernous muscles, some transverse fibres, and often the posterior portion of the bulk of the urethra. The assistant, who holds the catheter inclines the handle of the instrument towards the right groin, then the surgeon carries the index finger of his left hand into the bottom of the wound, and endeavours to find the membranous portion of the urethra and the sound: then the nail placed immediately in the groove of this instrument, serves to conduct the double edged bistoury, with which he divides at first backwards, the inferior part, then the superior part of the membranous portion of the urethra, to the extent of five or six lines. Keeping the nail in the same position, the bistoury is exchanged for the four-bladed cystotome, whose rounded point, which terminates the common sheath, is to be introduced into the groove of the sound. In this stage of the operation the surgeon takes in his left hand, this latter instrument which the assistant must give up, and after having in a slight degree drawn the handle of the instrument towards him, he raises, by a full movement of the side of the pubis, the sound and the cystotome, which being pushed on together, the concavity being upwards, penetrates easily, in this manner, into the bladder. When the point of this instrument has reached the cul-de-sac of the sound, the latter ought to be disengaged and withdrawn from the bladder as in all other methods. Then after having ascertained, as nearly as possible, the size of the calculus, we open the cystotome with much care, and in the following manner—taking the precaution of proportioning the separation of the blades to the supposed size of the stone; for that purpose it is only necessary to draw the ring to which is attached a shank that crosses the handle and a graduated scale, which by means of an index, indicates the degree of separation that may be graduated at pleasure, taking care never to open the superior blades above five lines, and the inferior above ten or twelve. When the instrument is thus opened in the bladder, we withdraw it with care in the direction of the incision, and as soon as we begin to feel the first resistance, we continue the drawing gently, until we have drawn the instrument about six or seven lines more, than previous to the time when we commenced to feel the cutting: then the prostate gland around the orifice of the bladder, being cut some lines in the four oblique radii, the first obstacle formed by the neck of the bladder, and the prostate

yields, which the operator perceives by the more easy passage of the blades, which then show less resistance than when dividing the parts. The superior oblique incisions ought to be a little extended, and made to act upon the neck of the bladder, and upon the base of the prostate, and never to be prolonged to the top of this gland.

When the cystotome shall have been drawn out about six or seven lines after the first resistance occasioned by the opening of the blades, then we push up the two *coulans a vis*, in form of the nut of a screw which press upon the handles of the superior blades, so that the latter being no longer compressed, may be inactive and remain immoveable in their sheath, when they shall have re-entered it.

After being assured that the two superior blades can no longer act, we continue to withdraw with precaution the cystotome, which will only cut the inferior oblique radii. This instrument will act as the two-bladed lithotome of M. Dupuytren, that is, obliquely and not transversely, as the name given to the operation practised after the method of this celebrated operator, seems to indicate. When we suppose, by the length which the instrument has passed through the wound, that the prostate and the neck of the bladder are sufficiently cut, we must cease to draw and then push the shank whose rings ceasing to press upon the handles of the two inferior blades, will permit these last to re-enter into their common sheath when the instrument is withdrawn. By this means, we shall have less necessity for prolonging the inferior incisions, as if we had not divided it superiorly, and we shall be, in this manner, less exposed to pass the limits of the base of the prostate, whose dense tissue not entirely cut, and the fibrous envelope left untouched, opposing itself to infiltrations, to fistulae and inflammation of the cellular tissue which surrounds this gland and the neck of the bladder. This last accident, according to the most celebrated lithotomists, among others M. Dupuytren, is the most formidable and the most common: it alone has caused to perish, says this professor, more subjects than all the others together. The most eminent of the Italian surgeons, Scarpa, holds this opinion, when he says in his treatise on the operation of lithotomy, translated into French in 1826 by doctor Ollivier d'Angers (page 22) that it is necessary to leave untouched the base of this gland to the extent of two and sometimes three lines. This recommendation is, according to him, of great importance: for the untouched prostate, which surrounds the orifice of the bladder, hinders the infiltration of the urine, and consequently gangrene or the formation of a fistula between this part and the rectum.

As soon as the lithotome is withdrawn, we introduce the left index finger of the left hand into the wound, while we make the gorget glide along the radial edge of this finger, and when this instrument has arrived in the bladder, we must turn its concavity superiorly, and it is in this concavity that we must pass the forceps or the litholabe with which we seize the calculus that may be now extracted by gentle pulling.

If the calculus was encysted or retained by fibrous cords, or encysted and adhering to the bladder, we should cut the cords and the membranous sacs with a small instrument, a kind of thimble, which I call a *Kystome*, that ought to be placed at the end of the index finger of the right hand: this instrument is surmounted by a small blade of two lines, in form of a crescent, cutting upon its convexity and fixed horizontally at the end of the thimble, by a shank of a line in length.

We then introduce through the wound into the bladder, and by means of the gorget, the finger armed with this instrument, and with slight movements of flexion and extension we cut the cords and cysts with facility, and without any danger of perforating the bladder as with a bistoury.

To appreciate the advantages of the four incisions of the orifice of the bladder, it will only be necessary to repeat the trials, that I have made in the presence of M. M. Beclard, the elder, fellow professor in the faculty of Paris, and doctor Hourman. We have laid open the posterior part of the bladder of an adult subject, and then introduced a large calculus which could not be extracted, when we were contented with performing the bilateral operation by means of my cystotome, suffering but the two inferior blades to act; but so soon as we have made the two small superior incisions, in causing it to act in the manner that I have explained, the other blades remaining immoveable, we see immediately the neck of the bladder, acquire great dilatation; and the calculus, which we perceived by the posterior opening made in the bladder, has been extracted with the greatest facility. I repeat it, that the opening, made in the neck of the bladder, when performing the operation after the sub-pubic method, resembles in shape a button hole that has but one great diameter, whilst the other is very small, and opposes the passage of a spherical or unequal body, if one has not taken the precaution to make a small incision, or to augment considerably the incision in the great diameter which would always be imprudent in cystotomy.

The advantages of the quadrilateral operation, performed by my cystotome, are the following:

1st. It affords a large and easy opening for calculi of great size, without going beyond the base of the prostate, and consequently, without interesting the body of the bladder.

2d. The not injuring any artery or branch which can give rise to alarming hemorrhage.

3d. In having less to fear in making a complete section of the prostate, and the fibrous tissue which surrounds it, as when we make use of small incisions.

4th. To be able to avoid lesion of the rectum and the vesiculae seminales, which are below the inferior oblique incisions but still more the contusions and lacerations, which in the other methods, are caused by the violent pullings, which it is necessary to exercise to extract spherical and rough bodies by an opening of a button-hole—shape, one of whose diameters is very small.

5th. To have a more speedy cicatrization, because the parts cut in a clean manner and without contusion, swell the sooner and re-unite the more easily. This swelling opposes infiltrations, urinary abscesses, and gangrene; and in fine the other consecutive accidents which have caused cystotomy to be regarded as a very dangerous operation.

6th. In not requiring a surgeon so experienced as by the method of M. Vidal, which renders the operation more slow and more painful. Besides the parts which are often divided by the bistoury, are not cut in so clean and smooth a manner, as with my cystotome, which cuts at a single stroke the neck of the bladder and the prostate. The incisions being made from within outward, since the blades represent four triangles having their bases in the interior of the bladder.

7th. My operation of cystotomy has the valuable advantage of being but little complicated; of uniting three instruments into one, and capable, in a very certain manner, of being employed in all the other methods of the perineal operation, since it is in our power to make as many blades act as we please, without having any fear, as in that of M. Dupuytren, of having but one side sufficiently divided, if by carelessness we forget to press equally upon the two handles.

Such in a few words is the method of operation which I propose; too happy if it should obtain the approbation of surgeons who may have to practice the operation of lithotomy; I would thank them in advance for any observations they would wish to impart to me, and beg them to believe that I will always receive them with gratitude. Perhaps their criticisms will be advantageous to my method, and to those who may wish to adopt it: to speak of it now in a too affirmative manner for or against, would be to anticipate the future, to make myself liable to be contradicted by experience, and to show that we have forgotten the remark of Baglivi: in medicina majorem vim facit experientia quam ratio.

### MISCELLANY.

#### *Medical and Chirurgical Faculty of Maryland*

At the Annual Convention of the Faculty, held on the 7th June, 1830, the following officers were elected for the ensuing year:

Dr. Robert Goldsborough, of Queen Anne's, *President*.

John Fonerden, *Recording Secretary*.

Henry W. Baxley, *Corresponding Secretary*,

William W. Handy, *Treasurer*.

James H. Miller, *Orator*.

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W. Willis, J. Baer.

Wm. Mosher, J. Marsh.

W. Dallam, T. Worthington.

J. Hopkins, J. Owings.



**Medical and Chirurgical Faculty of Maryland. 769**

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M. Keene, S. Harper.  
S. T. Kemp, N. Hammond.  
W. Jackson, F. Phelps.  
S. K. Handy, H. Hyland.  
J. S. Martin, J. P. R. Gillis.

The following gentlemen have been admitted members of the Medical and Chirurgical Faculty, since June 1st. 1829.

James Bordly, M. D.  
Robt. Ferguson, M. D.  
Andrew Annan, M. D.  
Frisby Tilghman, M. D.  
Thomas Slemmons, M. D.  
Jno. W. Teackle, M. D.  
John S. Reese, M. D.  
Philip S. Chappell, M. D.\*  
John A. Beucke, M. D.  
Josias Whittaker, M. D.  
Merryman Cole, L. M.  
Leonard Mackall, M. D.  
A. R. Ober, M. D.  
Jacob Shower, M. D.  
Fer. E. Chatard, M. D.  
Jacob Gillet, M. D.  
H. G. Doyle, M. D.

John F. Williams, L. M.  
Chas. McLean, M. D.  
Madison C. Klein,, L. M.\*  
John A. Craig, M. D.  
Jos. M. Cromwell, M. D.\*  
Wm. H. Oldham, M. D.  
Chas. H. Daub, M. D.  
Simon T. Taylor, L. M.  
Wm. Marshall, M. D.\*  
Thos. H. Handy, M. D.  
Moses L. Knapp. M. D.  
Thos. Littig, M. D.  
Philip G. Jones, M. D.  
Louis L. Dickson, M. D.  
Caleb Jones, M. D.  
Thos. H. Bond, M. D.\*

JOHN FONERDEN, R. 8.

\*Names marked with the asterio, are graduates of Washington Medical College of Baltimore.

**PRIZE ESSAY.**

*The Medical and Chirurgical Faculty of Maryland*, at their annual convention held in the city of Baltimore, on the 7th and 8th June, 1830, passed the following resolution, viz:

*"Resolved*, That a committee of seven be appointed to award a premium of one hundred dollars for such essay as they, or a majority of them, shall consider worthy thereof. The subject of such essay to be selected by said committee.

In conformity with the benevolent intentions of the Faculty, expressed in the aforesaid resolution, the committee offer a premium of \$100 for an essay upon the nature and sources of the Malaria or noxious Miasma, from which originate the family of diseases usually known by the denomination of bilious diseases; together with the best means of preventing the formation of malaria, removing the sources, and obviating their effects upon the human constitution when the cause cannot be removed.

The committee have been induced to call the attention of the profession to this subject, because of its vast importance to society at large. The immense extent to which this fruitful cause of disease operates, has not yet been accurately calculated, nor any probable estimate made of the mortality which it occasions. The public attention has been justly directed to other subjects of general improvement, but we believe no adequate effort has yet been made to awaken and direct the public mind to the prevention of the evils dependent upon Malaria, although it is well known to medical men to be extending its influence, and threatening to depopulate some of the finest sections of this country, as it has already depopulated some of the fairest portions of the old world.

Candidates for the prize are to cause their dissertations to be delivered to the subscriber, in Baltimore, (postage paid,) on or before the first day of May, 1831. Each dissertation to be accompanied with a sealed letter, superscribed with a motto corresponding with that prefixed to the essay. None of the letters, except that to which the motto of the successful essay shall be affixed, will be opened; the other essays shall be disposed of according to the direction of the proprietors.

HENRY W. BAXLEY,  
Secretary to the Committee.

---

*Washington Medical College of Baltimore.*

THE usual courses of instruction will commence in this Institution, on the last Monday of October next, and continue till the first of March ensuing.

The friends of this college and the public generally, are respectfully informed, that the prospects of this establishment are such as to satisfy all reasonable expectation.—A gradual increase of students, each winter for three years, affords to the founders of this college full hope of remuneration, for the labor and expenditure bestowed upon it.

The friends of honorable and salutary competition in medical instruction, are respectfully invited to inquire, and examine for themselves, as to the competency of the professors, and the sufficiency of every necessary means for facilitating the instruction of the several classes.

The following is the arrangement of professorships,—we have also subjoined a list of the expenses of the institution.

HORATIO G. JAMESON, M. D. Professor of Surgery.

SAMUEL K. JENNINGS, M. D. Professor of Therapeutics and Materia Medica.

WM. W. HANDY, M. D. Professor of Obstetrics and the diseases of women and children.

JAMES H. MILLER, M. D. Professor of the Theory and Practice of Medicine.

SAMUEL ANNAN, M. D. Professor of Anatomy and Physiology.

JAMES B. ROGERS, M. D. Professor of Chemistry.

TERMS.

The price of each ticket \$15. Initiation Fee, \$5. Five dollars to the Demonstrator. Diploma \$10.

Two full courses are required before the student may become a candidate for the degree of doctor of Medicine. But a full course in any other respectable college will be considered equivalent to one in this.

## OBITUARY.

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Died in this city, on the 21st day of May last, JOHN ARCHER, M. D., of Harford county, Md., in the 52d year of his age.

The loss of Dr. Archer cannot fail to be sensibly felt, not only by his own immediate neighborhood, but also by the whole county in which he resided; and particularly by the members of the profession to which he belonged. Having stood at the head of the medical profession in his native county for more than twenty years, he was considered by the community as their ultimate resource in every case of emergency; and while his advice was always in the highest degree satisfactory to his professional brethren, its value to them was enhanced by the uniform urbanity with which it was imparted. He possessed a magnanimity and sense of honor which rendered him entirely superior to all desire of advancing his reputation at the expense of others; and in consultation no hint escaped him in any way tending to derogate from the credit of the attending practitioner.

As a physician, Dr. Archer was distinguished by that practical sagacity and excellence of judgment, the want of which renders knowledge comparatively useless in every department of active life—without which learning itself is little more than a burthen to its possessor, and often becomes an instrument of mischief. The dignity and amenity of deportment which marked his intercourse with the afflicted, imparted to those excellencies a mild and peculiar lustre.

It is much to be regretted that the only surviving physician of the family, in whom the writer is happy to recognize all the professional virtues of his lamented brother, is in some measure disqualified by the infirm state of his health, for pursuing the active duties of his profession. The public are thus deprived of that resource which they have ever found in the advice of the Drs. Archer—a resource to which they have been accustomed to look in every extreme case, since the first establishment of their venerated father, a period of more than fifty years.

But the professional excellencies of Dr. John Archer, however elevated, were by no means the most important features of his character. His domestic and social virtues constituted a higher theme for eulogy, and afford a nobler object for imitation. Although the writer never had the satisfaction of associating in the family of Dr. Archer, he yet knows that he appeared to the highest advantage in his own domestic circle. He fulfilled all the duties of domestic life—as parent, husband, friend—with a fidelity which was never surpassed. It was here that he was ever communicating and receiving those nameless tenderesses, which admit of no expression in language, which constitute the principal, if not the only charm of life.

In regard to his intercourse with the world, the moral character of Dr. Archer was absolutely without a blemish. In the whole course of his extensive and long-continued commerce with society, his integrity was never called in question—calumny herself has never breathed a reproach upon his name.

A.

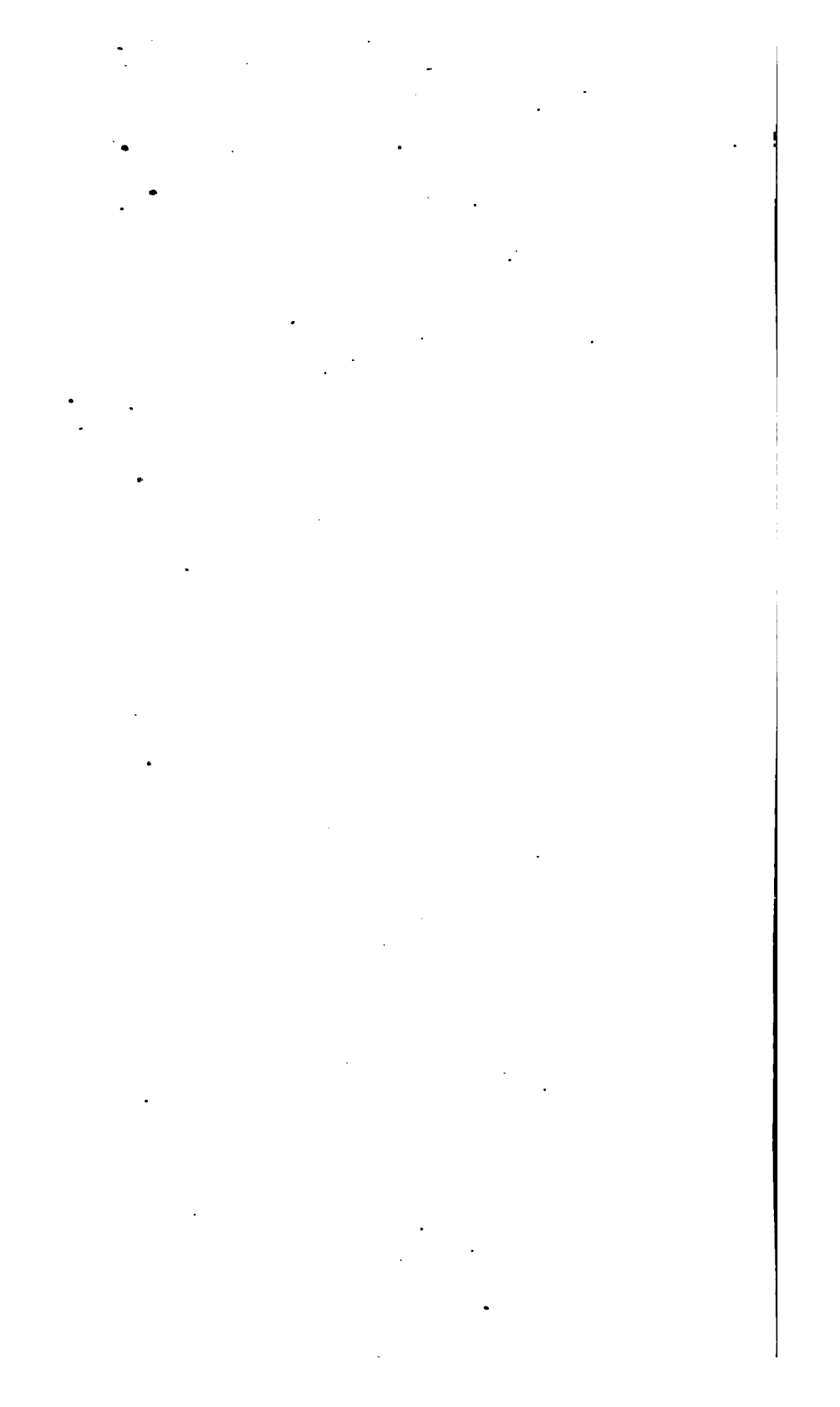
Died lately at Chestertown, Eastern Shore of Maryland, doctor — ANDERSON, for many years a distinguished physician. A more particular notice of the life, disease and death, of this highly respectable member of the profession, may be expected in our next.

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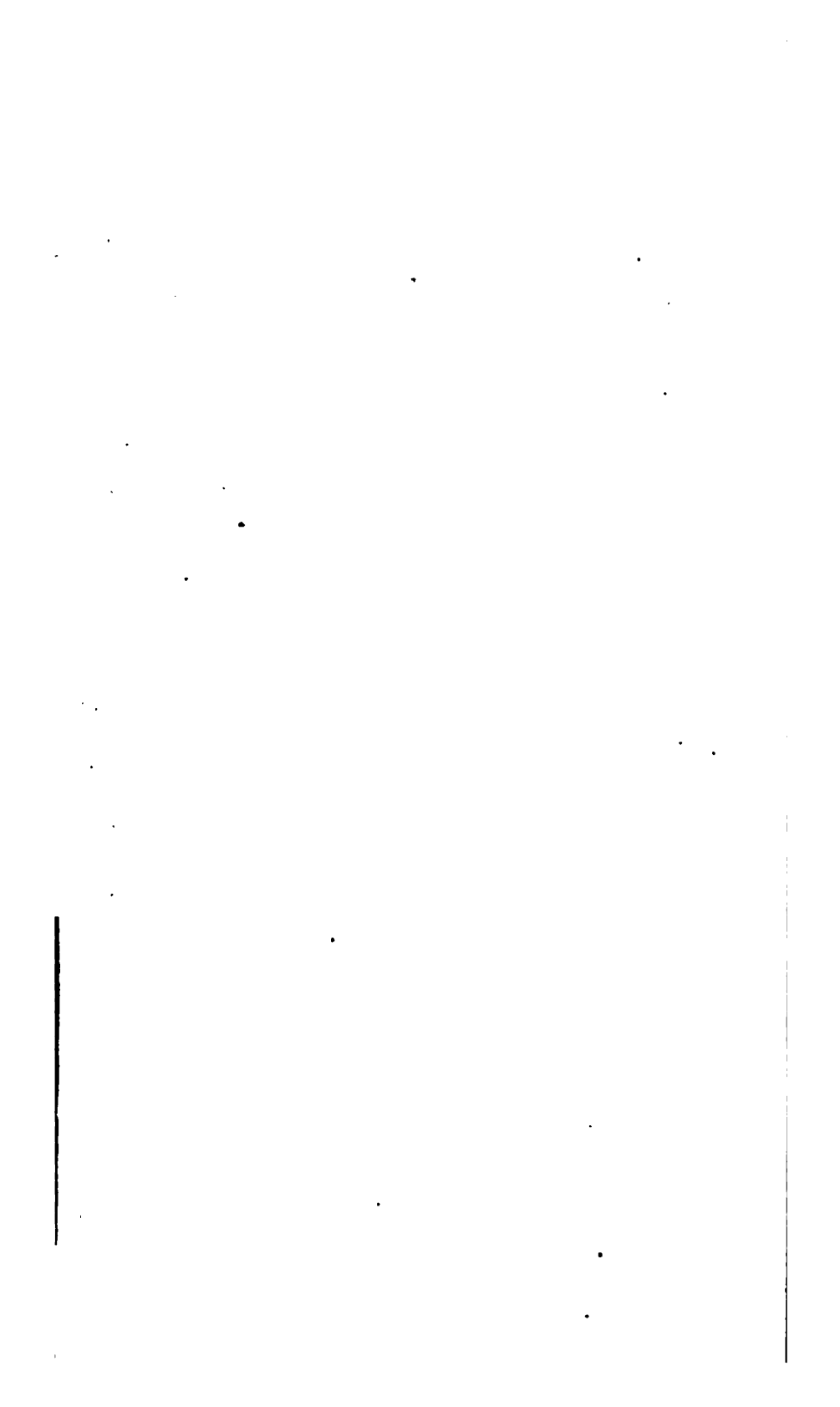
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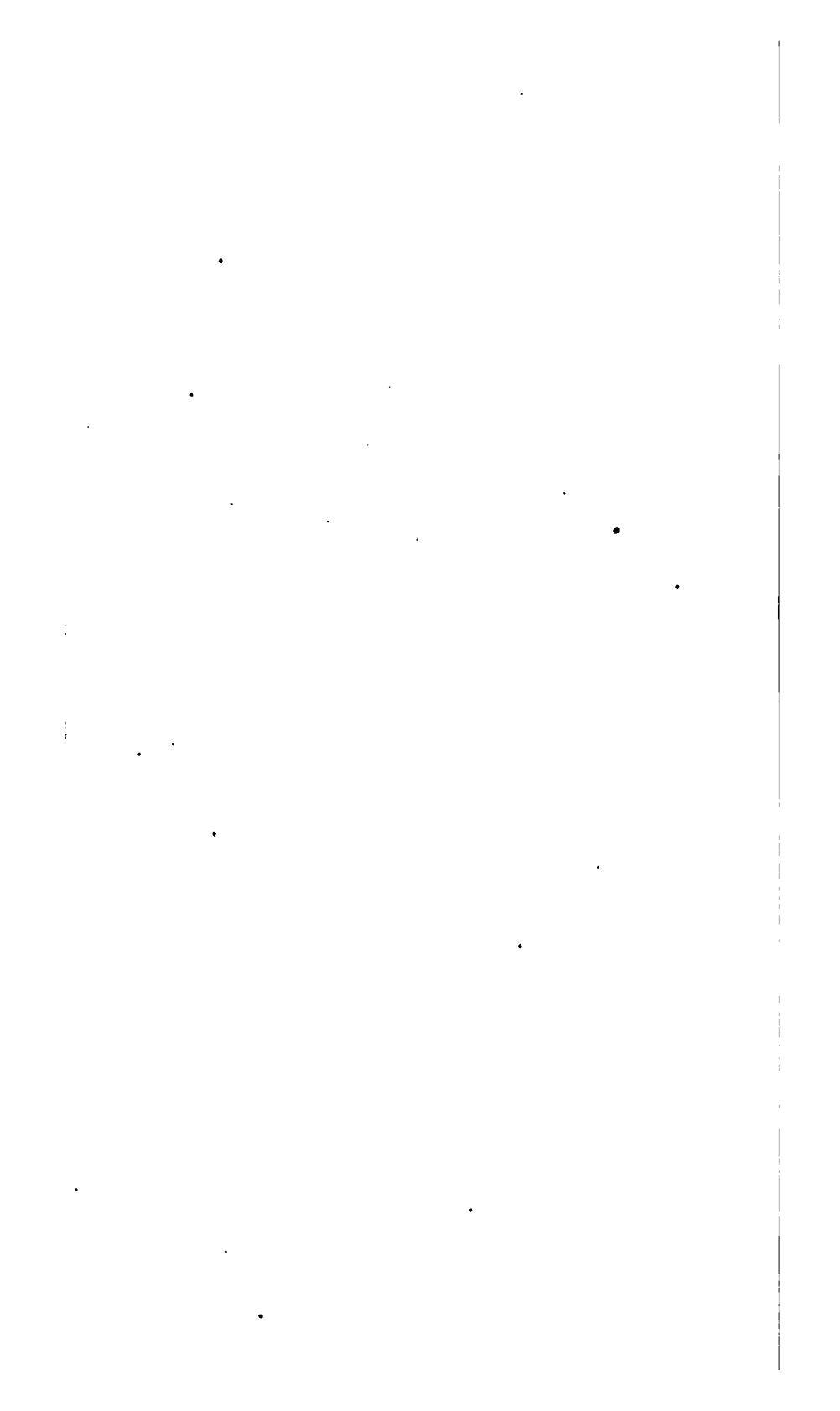






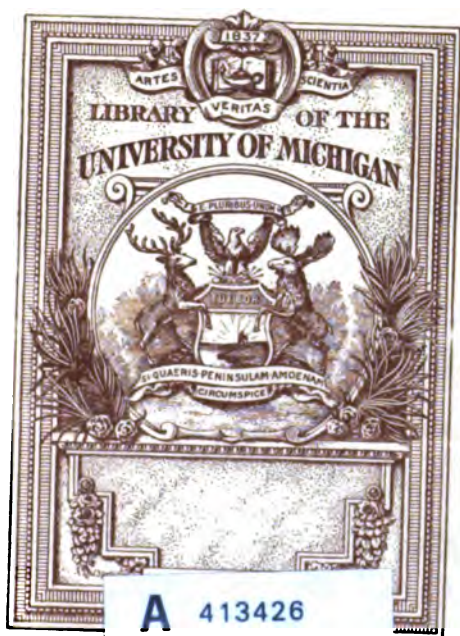








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